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—THE—
CANADIAN ARCHITECT AND BUILDER,
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(With a Weekly Intermediate Edition—The CANADIAN CONTRACT RECORD),
PUBLISHED ON THE THIRD SATURDAY IN EACH MONTH IN THE INTEREST OF
ARCHITECTS, CIVIL AND SANITARY ENGINEERS, PLUMBERS, DECORATORS, BUILDERS, CONTRACTORS, AND MANUFACTURERS OF AND DEALERS IN BUILDING MATERIALS AND APPLIANCES.
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EDITOR'S ANNOUNCEMENTS.
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THE results of the tests of Canadian building stones in progress at the School of Practical Science, Toronto, will be looked for with much interest by architects, but especially by quarry owners, many of whom will doubtless be largely benefitted by the publicity which will be given to the merits of their material.

A MOVEMENT is on foot in London with the object of erecting a statue of Queen Victoria at a cost of about $70,000. Few will be inclined to disagree with our New York contemporary, *Architecture and Building*, in the opinion that "No more deserved tribute could be erected to any ruler, whether its donors be actuated by a love of freedom, desire for industrial and art progress, or wish to promote any other branch looking towards the advancement of a people in the arts of civilization."

THE City Council of Toronto should lose no time in appointing a competent City Engineer. The fitness of Mr. Cunningham, who has been the acting city engineer since Mr. Jenning's retirement, has been called in question. Mr. Cunningham has demanded and is entitled to receive a prompt investigation into his character and ability, both of which have been attacked. If he is competent to fill the position, it should be given to him in preference to a stranger. His familiarity with the business of the department should enable him to push forward more expeditiously the important public works which require to be commenced during the coming season. If he is not the man for the place, there is the greater need for dispatch in selecting a competent man for the position.

IT is understood to be the intention of the contractors for the erection of the new Toronto drill shed to have the cut stone work done in the Province of Quebec, the object being to get the benefit of cheaper labor. The Toronto Stone-cutters' Union is strongly protesting against this action, and announce their determination not to handle any stone on which the work shall not be done in Toronto. Our sympathies are with the local stonecutters in this matter. The city of Toronto gave to the Government a valuable site for the building, and the local stonecutters who will be called upon to bear their proportion of assessment on account of the cost thereof, have a right to expect that the benefits arising out of the employment of skilled labor required in the erection of the building should go to local workmen.

AN article recently printed in the *Evening News* of Toronto, called attention to the lack of facilities, such as ladders and fire escapes, for the removal of patients from the General hospital, in the event of fire securing a hold upon the institution. Dr. O'Rielly, superintendent of the hospital, in reply states that while there may be a lack of fire-escapes and ladders, these appliances have been rendered almost entirely unnecessary by the perfect provision made within the building for the prevention of fire, and that the wide corridors and stairways would afford easy means of egress for the patients. Without questioning the fact that every precaution deemed necessary has been taken to prevent fire from obtaining headway within the buildings, until such a contingency is entirely beyond possibility, means should be at hand for removing patients from the windows of the upper stories. It can scarcely be necessary that these upper windows should be secured by iron bars as in the article in question is stated to be the case. Thus barred, they are deprived of their value should an attack of fire make their use as the only means of escape from the burning building, necessary. While on this subject the hope may be expressed that all buildings erected in the future for hospital or asylum purposes will be confined to two stories in height and constructed of fireproof materials.

IN extending the subterranean galleries for supplementing the public water supply of London, Ontario, in 1890, the Board of Water Commissioners contemplated the purchase of certain springs near the bank of the River Thames that were utilized to run a small factory or mill that was in a state of ruinous decay—in fact, the building and machinery were of little value. The owner, ascertaining the object of the Board, placed such an exhorbitant price on the mill privilege, as he termed it, that the Board concluded not to purchase. On extension of the galleries to within a few hundred yards of the "privilege," the springs

ceased to flow and have continued dry till the present. The mill owner is now seeking for redress, but so far without success, as the Board did not enter upon any property owned by him, and did not divert any natural water course as defined by statute. Very frequently municipal corporations are mulcted in large damages for trivial acts of neglect or for expropriating property. An instance in which fortune favored the municipality is so exceptional as to be a matter of special remark and congratulation.

THE astonishment of the architects assembled at the recent convention at finding a member speaking in favor of the obnoxious term, "Registered Architect," seems to have hindered their seeing clearly that the discussion was one of words merely. Mr. Billings wanted to retain the title as being a distinctive title for the trained and educated architect. Surely the name "Architect" should be this distinctive name, as it is already in the language with honorable association as the proper title of a man who is skilled in the art of architecture. It would be a pity to leave this name by Act of Parliament to practitioners who it is generally understood are not architects in the proper sense of the term, while the man who is truly an architect can only use the title with a qualifying addition. When Bonnelleschi proved that he could build the dome of Florence and Oghiberti could not, would he have thanked the Florentines if they had for that obliged him to give up the name "Architect" to Oghiberti, and call himself a "Registered Architect"?

UNDER present conditions it seems to be a difficult matter to determine the strength of the various brands of cement on the Canadian market. The same brand will give the widest possible variation in results when tested by different individuals. In consequence differences have arisen between architects and dealers. The architect specifies that the cement shall come up to a certain standard. The dealer's tests show that the required standard has been reached. In the hands of the architect or of his clerk of works it perhaps falls short fifty or one hundred per cent. Under such circumstances we have known the dealer to request the architect to call in a disinterested third party to determine the strength of the material, but the request was refused. The honest dealer in such a case finds himself in a very unenviable position. He may have every confidence in the merits of his material to withstand a properly conducted test, but the means are not afforded him of proving his case. He is therefore under the necessity of endeavoring to procure other material in hope that it may meet with the approval of the architect, or of bringing legal action against the architect for refusing to accept material which he has reason to believe would fill the requirements if properly treated. He well knows that such a step would be likely to debar him for the future from being given the opportunity of supplying material required by that particular architect in his practice. In view of the varying behaviour of cements when subjected to tests at the hands of different individuals and by means of different methods, it has become highly desirable that there should be established by the Government one or more testing laboratories, where by payment of a reasonable fee, an authoritative test of the quality of cement and other materials could be had. We trust that full facilities for such tests will ere long be available at the School of Practical Science, Toronto, and at McGill University, Montreal.

WHEN the Toronto city council was called on a few months ago to conclude negotiations for the lease of the street railway franchise to a syndicate for a period of thirty years, it took the precaution of employing the services of legal gentlemen of high professional standing to assist in framing an agreement which should protect the city's interests. It is a singular fact that in the agreement which, as the result of this precaution, was drawn up and ratified by the Council, no provision was made for compelling the company leasing the road to adopt any improvement in methods of propulsion by electricity which in the future might be found to be more desirable than the overhead trolley. The agreement provides that the style of motor to be adopted by the company must be approved of by the City Engineer. This we take it applies to the system to be adopted when the change from horses to electricity is first made. Those familiar with the progress achieved in the application of electricity to the operation of street railways are aware, that the only satisfactory method of propulsion at present is that of the overhead trolley. It is by no means unlikely, however, that within the long period of thirty years this system will be superseded by one very much better. Care should therefore have been taken that in the event of such an improvement taking place, the city would not be under the necessity of putting up with an inferior system until the term of the lease would expire. While the terms might not have been quite so favorable to the city as at present had the council insisted that the agreement must contain a clause compelling when necessary a change of system, much better terms could have been secured before the ratification of the agreement than can be obtained now. The company is urging the Council to give its consent to the use of the overhead trolley system, and intimate that they are willing to enter into an agreement to change the system when necessary, on condition that the city will indemnify them against all loss consequent upon the change. Should the city consent to this, it is safe to say that the amoun of the indemnity which will have to be paid will be infinitely greater than the sum which would have been sufficient to effect the change prior to the signing of the agreement. The company's letter on the subject contains the significant clause that their "tender was based on an electrical system, and not on the continuation of a horse railway, and the city will fairly be responsible, not only for loss of revenue to the purchasers, but for many other items of damages incident to the unreasonable delay," should it longer delay its consent to the change being proceeded with. In short, the city is compelled either to commit the citizens to the use of the trolley for the next thirty years, or accept the company's terms for a change of system when required. That it should find itself thus situated does no credit to the discernment of those who had a hand in consummating the agreement, and least of all to their distinguished legal advisers.

THE second annual convention of the Ontario Association of Architects held in the School of Practical Science, Toronto, was a very interesting one, and in many respects was as successful as could be desired. The present number of the CANADIAN ARCHITECT AND BUILDER is largely devoted to a full report of the proceedings, with the exception of the papers and discussions thereon, which will be printed in subsequent issues. Were it not for the publication of this report, many of the members of the Association, not having been present, would be able to obtain but a very imperfect conception of the variety and importance of the business transacted. It is a matter of regret that so many of the members are unwilling to devote the small amount of time and money necessary to meet once a year with their professional brethren for the consideration of questions affecting in an important degree the welfare of architecture in this country. The architects of the city of Hamilton, although only forty miles distant, were with one exception conspicuous by their absence. It would be interesting to know what excuse they have to offer for non-attendance. Still more deserving of censure are those members of the Association resident in Toronto who did not sufficiently interest themselves in the event to put in an appearance at the meetings. Their conduct bears uufavorable comparison to that of members residing in Kingston and Ottawa. From each of these cities there were present two representatives. It was also the subject of special satisfaction to see present Messrs. Hutchison and Clift, representing the sister Association of the Province of Quebec. The interest attaching to the occasion was enhanced considerably by the harmonious character of the surroundings. Professor Galbraith, the principal, and Mr. Wright, professor of Architecture in the School of Science, spared no effort to make the visit of the architects one of pleasure and profit. The tests of materials in the laboratory were themselves a feature of much interest and value. There was also quite an extensive exhibition of drawings, which though including little with which Toronto members were not familiar, was of much interest to those from outside places.

The annual dinner at Webb's was remarkable for the variety and excellence of the speeches which the occasion called forth. The remarks of the visitors from the Province of Quebec were felt to be well considered and timely. Mr. Hutchison's suggestion regarding the formation of a Dominion Association evidently met the sympathies of a number of the members of the Ontario Society. While the majority may feel that the efforts of the two provincial organizations for some time to come will be required to be directed to strengthening their positions and putting in the way of fulfilment the important objects for which they were organized, it is the hope of all that eventually a Dominion Association will exist, and be the means of achieving greater things on behalf of the interests of the profession than can be accomplished by means of the present organizations. Professor Galbraith's remarks, especially relating to the strength of materials, were very instructive and valuable, while Mr. Gordon's references to the injustice done Canadian architects by the failure of the customs authorities to see that the protection designed by the tariff to be given to Canadian architects is actually afforded them, were timely and should serve to call the attention of the public as well as the Government to this important matter. From the social standpoint the dinner would have been more enjoyable had provision been made for a brief program of vocal and instrumental music. In all other respects it was a most successful affair.

Mr. W. G. Storm, who has filled the position of President since the organization of the Association, bears with him in his retirement the highest esteem of his associates. His administration has been marked by the deepest interest in everything calculated to uplift the profession, strict fidelity to duty, and the utmost courtesy towards every member of the Association. Mr. S. G. Curry, who has been appointed as his successor, has been a leading spirit in the Association from its inception, and has spared no effort to advance its interests. As President of the Association his enthusiasm and energy will no doubt continually prompt him to promote in every possible way its prosperity, and in so doing we hope he will receive the hearty co-operation of every member.

ONTARIO ASSOCIATION OF ARCHITECTS' CONVENTION.

THE second annual convention of the Association, held under the Act of Incorporation assembled in the School of Practical Science, Toronto, on Tuesday and Wednesday, the 2nd and 3rd inst. The following members were present :

Messrs. Storm, Langton, Curry, Price, Jas. Smith, Jos. W. Power, Wagner, Helliwell, Gambier-Bousfield, Gregg, Jarvis, Wickson, J. A. Ellis, Willmott, Law, McBride, Burke, Maycock, Jas. Adams, Belcher, Billings, Townsend, Whitehead, W. A. Edwards, Darling, Moore, Sproatt, Edwards, Webster, Kinsey, Gordon, Langley, Gemmell, Symons, E. J. Lennox, McCallum, Bowman, and Kennedy. Among the visitors present were Hon. G. W. Ross, and Messrr. Hutchison and Clift, of Montreal.

THE President of the Association, Mr. W. G. Storm, took the chair at 3 p. m. He regretted the fact that a large number of members had written to him expressing their inability through sickness to be present.

The minutes of the last annual convention were read by the Registrar, and after having been slightly amended, were on motion adopted.

On rising to deliver his annual address the President was received with applause. He spoke as follows :

PRESIDENT'S ADDRESS.

Gentlemen,—In opening this annual Convention of the Architectural Association of Ontario, I desire to extend the right hand of fellowship to our brethren residing at a distance from the city, to welcome them on behalf of the resident members, and to express a hope that their visit at this time may be a means of drawing us all more closely together and of promoting the interests of our noble profession. This meeting is the second held under the authority of the Act of the Ontario Legislature, which became law on the 7th of April, 1890, but the fourth since our first organization as an Association, and now that we are fully organized with a statutory constitution, it is to be hoped that our annual meetings may increasingly stimulate enthusiasm and energy, and afford profit and instruction to the older as well as the younger members of the profession, for we must never forget that, irrespective of age, we all are, or ought to be, students to the last.

Architectural students of the present day, and especially in this city, are to be congratulated on the educational advantages they possess. In addition to the carefully prepared curriculum of this Association, there are the benefits to be derived from connection with the Toronto Architectural Sketch Club in the study of architectural drawing and in hearing the lectures or talks which are given from time to time on subjects intimately connected with the practice of the profession. This Club might further extend its usefulness by establishing classes for the study of structural drawing and building construction. The lectures and drawing classes conducted by Prof. C. H. C. Wright in the School of Practical Science, I have no hesitation in strongly recommending to the consideration of all students who may be able to avail themselves of them. They are, in my opinion, the best ground work for the future study of the profession in all its details, besides saving for the student two years study in the office of an architect. It will certainly be strange if architectural students are not in future good draughtsmen and learned in the various subjects appertaining to their art, for it cannot be said that ample opportunities for study, or able professors and teachers, are not at their command. I venture to express the hope that architects who have pupils in their offices will in a liberal spirit afford them every possible facilty for deriving full benefit from the exceptional educational advantages to which I have referred.

In connection with the topic of students' advantages, permit me to say a few words upon a kindred subject of great interest to the profession at large, and affecting it quite as directly as any other. I am led to refer to it because the attention of the Association will shortly be directed to the first examinations of students and candidates for enrolment on the register of the Association as fully qualified architects, which examinations will be held under our new code of laws as directed by the Act of Incorporation.

There are some who say that architecture is an art, and that as it is impossible to establish any uniformity of opinion in matters of taste it is equally impossible to set up any uniform test. This is partly true ; but is this a full definition of architecture? In these days of invention and demand for scientific knowledge and treatment of every requirement of human life, building has become proportionately scientific, and the architect must accordingly be a man of education in all that pertains to constructive science. Buildings in these northern climates have to exclude severe weather and to be constantly occupied, and they must be well adapted to all the conditions of comfort and health. The architect must therefore be an expert in the nature and qualities of material and also in sanitary science. Without this he is like a student of language who has never learned its grammar, and from whom we may expect nothing but blunders.

I yield to none in my appreciation of the nobility of our calling as the embodiment of the highest form of art. But architecture is more than an art. It is an art, a science, and a profession. And what nobler or more elevating occupation can be conceived than to design with fitness and clothe with beauty those permanent necessities of every-day life so that each in its turn may contribute to the convenience and pleasure of mankind? The unique characteristic of our calling is, that it combines such different qualifications—artistic taste, scientific knowledge, business proficiency. We have no claim to be architects in the true and full sense of the word unless we are artists—able so to dispose and clothe the materials with which we have to deal as to produce beauty of form and proportion. But we must also be scientists, so familiar with the strength and properties of materials as to combine them in sound construction. And we must, moreover, be men of business, so conversant with affairs as to be able to protect the pecuniary trusts which are committed to us. Of what good to society would be the most graceful design in architecture if it was so devoid of constructive merit as to collapse on the first test of stability? Or conversely, what claim to architectural merit has the most perfect construction unless clothed with beauty? Architecture is composed of elements, each one of which is essential to the unity of the whole, and without any one of which it would be incomplete and useless to society. There are those amongst us whose proclivities and aspirations are specially artistic ; there are those whose genius is constructive ; there are those who are *par excellence* men of business. The ideal architect is the man in whom these qualities are united—who is an artist, a constructor, and a man of business. It is given to few to excel in all, though there are many who, possessing a general knowledge of each, are proficient in one or the other. And is one who is distinguished by artistic taste to regard with indifference or a species of contempt others who may be less artists and more scientific? Or is one whose genius is constructive to look askance at others who are more purely artists? No ! architecture is not merely an art ; it is not merely a science ; it is not merely a profession ; it is the combination in one of the artist, the constructor, and the man of business ; and those who claim that it is one only, to the detriment of the others, detract from the nobility as well as from the unique character of their calling. They vainly strive to disintegrate things which are inseparable, and which must go hand in hand. As well seek to sever cause from effect ; as well assert that neither root nor stem has any part in providing the rich foliage or the delicate flowers on which the eyes of man feast with delight.

I have been led to offer these remarks upon what I consider the true standard of the profession for the reason—as you have all been informed by circular from the Registrar—it is proposed to hold in April next our first examination in preliminary subjects, intermediate and final qualifications for full membership in the Association. The subjects which have been selected for the present examinations are not of a very abtrsuse character, as it has been deemed more prudent at this time not to be too severe or exacting in the standard of qualification, inasmuch as those candidates for membership in the Association expecting to present themselves for this ordeal have not had the advantage of previous training so as to be properly fitted for a rigid examination. But as years roll on, and the students become better educated and have greater facilities for qualifying themselves in every branch of the art and science of the profession, it is expected that the standard of qualification in the several examinations will be elevated by degrees, so that in a few years, to be a member of the Architectural Association of Ontario will be a talisman into the best kindred associations in the known world.

I indulge in the anticipation, the fulfilment of which I may not live to see, that every member of this Association will be a qualified architect in the sense of having passed an examination instituted by his brethren as the necessary qualification for membership. The affix "M.O.A.A." would in such circumstances, and in the eyes of the public, mean much more than it does now, for it could then be used only by those who had passed the test of a qualifying examination. When my confident anticipation is realized some years hence, members of this Association will be proud of their proper distinguishing letters, and will take care to relegate them to no second place, because they will be acknowledged and accepted by the public as the evidence of professional qualifications which no other letters can convey. And it is to be borne in mind also, that, to retain this privilege the architect must keep himself clear on the register of the Association, which, according to the Act of Incorporation, the Registrar is directed to revise and publish annually in the month of January for the guidance of the profession as well as information for the public.

And here I might be pardoned for digressing for a moment to refer to the series of tests of building materials which through the kind courtesy of Professor Galbraith, Principal of the School of Practical Science, have for some time past been, and are now being conducted in this building, in association with the professors of the School, by a Committee of the Council of this Association, to determine the strength of our native stone, and which will be followed from time to time by the testing of all other domestic materials used in building ; these tests when completed and the results properly set forth in tabulated form, will be of inestimable value to the profession, from the fact that the tables will be more reliable as a basis of calculation than those now in general use. And there can be little doubt from the information gained in the tests already made, that there are many native stones now little known to the profession which will be brought into general use, replacing the imported stones

now so much in favor, and with—what is not the least consideration—a very material saving in the cost of building.

The Council have prepared a draft of indenture for articled clerks which has met the approval of your solicitor; printed proof copies of this have been distributed on the seats throughout the room for use of all the members in attendance at this convention. The Council request your approval of this draft and your instructions as to whether it shall be printed similar to the form in your hands or neatly lithographed. The Council have also prepared a draft form of instructions to architects, which they recommend for use in all future competitions. Proof copies of this have also been distributed throughout the room.

Our Association is now fully launched before the world of scientific institutes under the most favorable auspices. As I have remarked on a former occasion, this is the first Architectural Association in any country to obtain for its incorporation the sanction of the Legislature of the land in which it is located. But all this is of little value in elevating the profession to the standard of perfection we aspire to, unless the individual members of the profession will, by their regular attendance upon our annual re-unions—even if to do so involves some considerable personal sacrifice—add each his quota to the common fund of information and contribute from his individual store of knowledge to the interest and general usefulness of the convention, and by strict attention to the severest code of professional honor and *esprit de corps* in their individual dealings one with another and with the public, endeavor to command that respect and esteem which should be inseparable from the name of architect.

And now in conclusion permit me to extend to the officers and members of the Council and of the Association my cordial thanks for their uniform kindness to me personally, and for passing over the many deficiencies I am conscious of having exhibited during the three years I have had the honor to preside over the Association. I am nevertheless sensible of the confidence reposed in me, of which I shall ever entertain the most grateful remembrances, as being one of the proudest compliments paid me during my long professional career. In taking leave of the chair, which I must in accordance with the terms of the by-laws of the Association do at the end of this session, permit me to wish you all individually and as an Association, the fullest prosperity in your business and social relations, and I pray that the Great Architect of the Universe may grant you all health, wealth and happiness in this world, and the salutation: "Well done good and faithful servants" on that day when we shall all be asked to render an account of the manner in which our earthly tasks have been completed. As the poet Longfellow has it:—

"All are architects of Fate,
Working in these walls of Time,
Some with massive deeds and great,
Some with ornaments of rhyme.

Nothing useless is, or low,
Each thing in its place is best;
And what seems but idle show,
Strengthens and supports the rest.

For the structure that we raise,
Time is with materials filled;
Our to-days and yesterdays
Are the blocks with which we build.

In the elder days of Art,
Builders wrought with greatest care,
Each minute and unseen part;
For the gods see everywhere.

Let us do our work as well,
Both the unseen and the seen;
Make the house, where God may dwell,
Beautiful, entire, and clean."

It was decided that as Prof. Galbraith could not be present at 10 o'clock the following morning, that Mr. Curry's paper should be the first order, and that Prof. Galbraith would be heard at eleven; and as there was no paper from any member of the Quebec Association ready, one prepared by Mr. Fuller, of Ottawa, to be read by Mr. Billings, was substituted.

Mr. D. B. Dick submitted the report of the Treasurer as follows:

TREASURER'S REPORT.

Dr.			
To balance from Association at date of incorporation			$ 172.80
To cash received from S. H. Townsend as Registrar.....		$2,351.33	
To do do W. A. Langton do		551.00	2,902.33
To refund from CANADIAN ARCHITECT AND BUILDER.....			26.00
To interest on bank a/c.....			87.22
			$3,188.35
Cr.			
By cash to Registrars' for disbursements			
S. H. Townsend.....		338.65	
W. A. Langton		494.00	832.65
By CANADIAN ARCHITECT AND BUILDER a/cs.....			82.05
By Registrar's salary (W. A. Langton, six months).....			100.00
By fee for two years refunded to widows of two deceased members.....			10 50
By balance in bank			2,163.15
			$3,183.35

We have examined the books, vouchers, etc, of the Association, and certify that the above is a correct statement thereof.

HENRY LANGLEY, W. L. SYMONS, } Auditors.

Mr. Dick explained that owing to the change of the date of the expiry of the annual subscription consequent on the merging of the old Association into the new, that refunds had to be made to those members who paid their subscriptions to the extent of two-fifths, and that the accounts covered a period of about seventeen months. Consequently, they did not give a fair index of what the annual revenue of the Association would be in future. There would also be the expense of conducting examinations, and it was not likely that the Association would be able to retain such a large balance at its credit as it now had.

On motion by Mr. Edwards, seconded by Mr. Smith, the above was received and adopted.

The Registrar, Mr. Langton, read his report as follows:

REGISTRAR'S REPORT.

During the year since the last convention, the Association has been established in its regular course.

The by-laws were completed, printed and distributed.

The curriculum of study for the examinations was arranged and the registered students classified according to their length of service so as to require from them only those examinations which were just; that is to say, which would permit those students who had entered into articles before the passing of the Act, to proceed to practice upon the fulfilment of their articles with as little hindrance as possible.

A Board of Examiners has also been appointed who have in charge, subject to the control of the Council, the examinations of next April.

The Association library was founded by the Council at its meeting in May, but as the greater part of the books could only be got in England, the collection was not complete enough for the issue of a catalogue before September. Since then the library has been in use by both architects and students. All members of the Association and registered students have had copies of the catalogue sent to them.

A form of indenture has been drafted and approved by the Solicitor of the Association.

Conditions of competition have been drawn up, which are submitted to the convention to-day.

Tests have been made of the building stone in use in the province, and the results will be reported.

A register of draughtsmen out of employment has been started in connection with the Registrar's office. Any student who has served his time and is in search of a position, or a draughtsman out of work, may advertise his want in this way without charge, and architects can by application at the Registrar's office select from the list of applications.

By the request of Mr. Wright, of the School of Practical Science, the Council are supporting his endeavor to establish a permanent exhibition of drawings, of which the nucleus is at present in place, at the School of Practical Science. The motive of the exhibition is primarily the benefit of the students of the School, and it is intended to be a factor in their education. But it is thought that it will also be of general advantage to the profession to have a central exhibition room where the best efforts of the profession may be displayed.

The Council has made two efforts to procure a design suitable for the seal of the Association without result. So far there have been no satisfactory designs submitted. The prize offered for the successful competitor in the competition which was advertised was $25. This sum is still offered to any one who will send in a workable design which meets the approval of the Council.

The Board of the Presbyterian Church has been endeavoring to improve the type of churches built for their body by offering prizes for the best designs for churches of different classes, a schedule of which was published in the CANADIAN ARCHITECT AND BUILDER. The money prizes are small, but there is the opportunity afforded of securing work by the exhibition of ability to do it. The Association has become connected with this venture on the part of the Presbyterian Board by their request that the Council of the Association would appoint a Committee to adjudge the prizes and report upon the drawings submitted.

I would like to remind the members that there are twenty-one members of the Association who have not paid their fees, and that in accordance with the resolution passed some little time ago, these members have not the right to vote until their fees are paid.

On motion the report was received and adopted.

The President announced the next order of business to be the consideration of the report of the Committee on "Conditions of Competition," a draft of which, prepared by Messrs. Arnoldi and Curry, had been printed and distributed.

Mr. Curry suggested that the draft be read and considered clause by clause, which was agreed to.

A lively discussion ensued in which the questions of the rendering of drawings; the nature of the report to be demanded from the experts; the definition of the commisions; the possibility of the design placed exceeding unreasonably the proposed price; and many points of precision in wording were dealt with and the draft amended in some points.

Mr. Gregg thought that the circular ought to give some definite information as to what amount of money was to be divided in prizes. The average was one-half per cent. divided into three prizes, and there should be some note bearing on this point at the end of the clause.

Mr. Curry said that it was his intention to bring up the matter when they were considering clause 14; the second, third and fourth prizes should be a definite percentage on the total cost.

and then people would know just exactly how much they would have to pay. Would one-half per cent. for the second, one-third per cent. for the third, and one-fourth per cent. for the fourth be a fair and reasonable figure?

Mr. Jarvis did not think that the public would readily consent to pay such large amounts as that.

Mr. Billings did not consider that so very far out of the way; on a $50,000 building the second man would only get $250.

The chairman agreed with Mr. Curry as to the fairness of the amounts mentioned, and the latter's suggestion that the committee should be instructed to take this matter into its consideration and report to the convention to-morrow was finally adopted. At the chairman's request, Mr. Curry named Messrs. Dick, Burke, Bousfield, Billings and himself as the committee to deal with the subject.

Mr. Curry called the attention of the members of the Association to the desirability of strictly adhering to these conditions. Some seemed to think that they were prepared for the purpose of affording a little amusement for the members. They were going to enter into competitions with others with these rules as the basis; and, seeing that as a rule, the men at the top of the profession did not bother themselves with competitions, it was for the members of the Association to say whether any member should enter any competition where these rules are not the basis of the competition. The trouble with competitions in the past had been that they had never been at all fair for the architect. There never could be a competition held that would be perfectly fair for the architects without resulting in great benefit to those holding it. There was no use meeting here from time to time and laying down conditions unless it was understood that they will be rigidly adhered to by members of the Association. (Hear, hear.) If the members of the Association did not think it worth their while to stick to matters of this kind, then they had better drop out at once. It should be definitely understood that no member of the Association would enter any competition unless it was to be conducted upon this basis. The only way to build the Association up was for the members to stick to one another; not to make it a combine to injure the public, but to unite in such a way that the union would benefit the public as well as themselves. (Applause.)

After some further discussion, a vote was taken on the wish of the meeting, and it was decided that the whole report would lie over till to-morrow morning.

When the report of the Committee on "Building Materials" was called for, Mr. Townsend, the chairman, announced that he was only able to make a preliminary report, as the tests were not yet completed. Very exhaustive tests had been conducted, with the result that all samples of stone submitted that could be broken with a pressure of 100,000 lbs., had been tested. It was found, however, that half, or nearly half, of the samples sent in could not be broken with the machine that was available. Another machine was being erected with double the capacity; this machine was nearly ready, and in a short time he expected to publish, not only the tabulated results of the tests, but also a great deal of valuable information about the quarries of the Province—their location and characteristics. This would be done in such time that it would be ready for proper presentation at the next meeting of the Association. In the meantime the members would gather from the experiments to be made by Prof. Galbraith to-morrow, something of the manner in which these tests are conducted.

The chairman announced that these tests were to be continued, and that in the course of time the results would be published.

Mr. Bousfield reminded the meeting of the question of a suitable indenture awaiting consideration.

The Chairman said that for his part he thought that the two questions of the indenture and the competition were very important questions, because, when once adopted, they ought to be permanent, and not tampered with nor changed. Perhaps it would be better to defer the consideration of them until the morning. The order for to-morrow would therefore be:—First, report of committee on premiums; second, the indenture; third, Mr. Curry's paper; fourth, Prof. Galbraith's tests.

Mr. Billings read a paper prepared by Mr. Fuller, C. E., of Otrawa, on "Ventilation in Public Buildings," which, together with the discussion thereon, will appear in a subsequent issue.

SECOND DAY.

The Association was called to order at 10:30 by the President, the first order of business taken up being the report of the Committee appointed yesterday re the filling of the blanks in regard to the premiums in the conditions for competition.

Mr. Curry announced that all the members of the Committee had not met, but part of them had, and they recommended that the first prize be one-half of one per cent., the second prize one-third of one per cent., and the third prize one-fifth of one per cent. In a competition of $100,000, that would mean that the first prize would be $500, the second prize $330, and the third prize $200.

As clause 14 was still under discussion the meeting considered the question: What course of procedure was best in case the author of the best drawing did not otherwise command the entire confidence of the experts. The discussion resulted in a slight emendation of the original draft.

The conditions of competition were then adopted as a whole, as follows:

DRAFT.

1. The ..... is proposing to erect a building, the cost of which is not to exceed ....., and have appointed a Building Committee with full power to select an architect to carry out the work.

2. The Committee has appointed M ....., architect, as professional adviser, and will appoint two other architects, nominated by the Council of the Ontario Association, to act as experts with him to decide the relative merits of the designs submitted in this competition. The two experts to be nominated by the Council will be selected from men who have no knowledge of the competition other than what they may have obtained through reading these Conditions.

3. All designs are to be made in conformity with the instructions herein given, and when it is stated that a certain requirement must be placed in a certain definite position or is to be of a certain definite size, the same must be adhered to in every particular. The competitor will be allowed reasonable latitude in planning or designing when the requirements are only stated generally.

4. The drawings enumerated in clause No. 5 are to be furnished by each competitor and these only will be received and considered; but minor variations of detail and alternative arrangements may be shown on any of the drawings by means of flaps. A competitor may omit any of the drawings called for, but it will be at his own risk, in case the experts should decide that they have not sufficient information before them to fairly judge the design in competition with its competitors. The drawings must be accompanied by a brief memorandum, typewritten, explaining any points in the design not plainly shown on the drawings.

5. The drawings required are as follows:—

6. The drawings are to be executed to a uniform scale of ..... to the foot and finished in line only, without shading, with Indian ink and with the drawing pen.

7. There is to be no brush work except in finishing the windows and sections with a solid black tint. The lettering and figuring is to be plain and simple and is to be confined to the name and dimension of the rooms, written in the middle of each, without explanatory comments, which are to be put by themselves, as has been stated, in a separate memorandum. The number of square feet in each room is to be given, as well as its lineal dimensions. The drawings are to be made upon white paper, cut down to the dimensions of ..... inches.

8. If the plans of two or more storeys are identical, all but one may be omitted, and when storeys are exactly symmetrical in plan, half only may be shown. A competitor may send in alternative elevations with any set of drawings.

9. The perspective is to be set up from an ..... scale plan and is to be drawn in line only, without shading and without any accessories such as sky, trees, figures, etc. The plane of the picture is to touch the most advanced portion of the building, and the point of sight taken from a point from which the building can be seen when erected and at the level of ordinary sight.

10. Each drawing and the accompanying memorandum is to be distinguished by a motto or cypher, and no handwriting of any sort is to be put upon either. Any of the competitors may send in a second set of drawings embodying a different plan or design if he desires to do so. In this case it must be under a different motto. No competitor is to use any motto or device which he has used on any previous occasion.

11. A sealed envelope bearing the same motto or device and containing the address of the author is to be sent to the ....

12. The drawings are not to be framed, glazed or even mounted on cardboard, but are to be sent flat in a portfolio, and are to be addressed to .... who will hand them to the experts in the same condition in which they are received by him with seal unbroken.

13. The experts will carefully examine all the designs sent in and place the best four in order of merit. They will also make a report on the designs sent in, but especially giving their reasons for placing the four best designs in the positions assigned to them. A copy of this report will be sent to each competitor.

14. The Committee will commission the author of the design placed first, at the regular commission, to carry out the work, provided the experts decide in consultation with them that the work may be safely entrusted to him. If the experts decide that it would not be advisable to entrust the work to the author of the design placed first, the Committee will insist that some architect in whom they have confidence shall be associated with him as consulting architect.

The author of the design placed second will receive ½ of 1%; the author of the design placed third ¼ of 1%; and the author of the design placed fourth 1-5 of 1%.

15. All designs will be returned to the competitors at the expense of the Building Committee as soon as the experts have made their report. No design will be shown to any competitor nor to any other party without the consent of the author. Nor shall anything shown in any of the rejected designs or otherwise suggested by an unsuccessful competitor, which is original as to this competition, be adopted and made use of in the building without the consent of the author and proper remuneration being made him, the amount thereof to be agreed upon between him and the Committee, and in case of disagreement it is to be referred to the decision of the experts, whose decision shall be final not only in regard to the amount to be paid, but also in regard to the existence of any such claim.

16. Any information which the Committee, or any member of the Committee or their professional adviser may find proper to communicate to any of the competitors in answer to questions or suggestions, will be made in print and will be simultaneously communicated to all the rest. Such questions or suggestions must be made on or before the 15th day of ..... 189.... and must be sent to .....

Mr. Curry proposed that the "Conditions" having been carried in the Association, consisting of all men claiming to be architects in the province, (certainly with very few outside of it), should bind its members not to compete under other conditions than those of the Association.

It was then moved by Mr. Curry, seconded by Mr. Joseph W. Power, "That this convention having approved of the conditions of Competition, request every member of the Association to refrain from entering any advertised competition except those conducted under under the conditions adopted by the Association."

Mr. Burke said there might be some difficulty in making this a hard and fast rule. Take the case of a School Board in the country There are two young men in the town practising

Each of them have friends on the Board; a majority cannot be got on the Board to decide on the architect, and a competition is decided on; then if these gentlemen were honorable members of this body it would be impossible to arrange a competition, as they would be ruled out from competing. He brought this point up for the purpose of doing away with any misapprehension in the minds of any of the members.

Mr. Curry held that such a case as the one instanced by Mr. Burke would not be influenced by the proposed action of the Association. It would not interfere with a proprietor who was prepared to build going to four architects and saying I will give $100 apiece if you will prepare competitive drawings.

The President, putting the motion to the meeting, declared it carried unanimously.

Before proceeding with the discussion of the subject of Indentures of Apprentices, Mr. Curry moved: "That the Council is hereby instructed by the Association to get the word "Registered" struck out of the Ontario Architects' Act." Section 25 of the Act says that members of the Association shall be entitled to use the word "Registered Architect," and that no other party shall use the term. Nearly every architect in the Province of Ontario was entitled to use the title, so that there were practically none who could claim to be architects outside of the Association, and if the word "Registered" was struck out and the members of the Association given the privilege of using the title "Architect," no injury would be done to any one and the members of the Association would be in a very much better position. If the Association was to proceed with the instruction of students, hold examinations and do certain work, they should have some equivalent for that work. All such work might be done for love of the profession, but at the same time the public is receiving a much greater benefit than the members of the Association; it is really the public who are going to receive the principal benefit. None of the older men of the Association would receive any benefit, but were taking means to train up young men to supplant themselves. The young men would have good educations, be thoroughly trained and instructed, and this competition must be felt by the older men. It was only right that the Legislature, acting for the people, should give some encouragement more than they had done. The Act given practically says that it is for the benefit of the public that they should distinguish between qualified and unqualified men, but practically gives the Association nothing after all. If that word could be knocked out, it would help the Association very much and would cause all to work harder for the benefit of the profession. The man who studies and works and passes his examinations should have the right to use the title, and certainly not the man who is so careless, indifferent or lazy that he will not take the trouble to become proficient. The latter should have no right to use a term which the others have acquired the right to use by hard work.

Mr. Townsend, when seconding, spoke in support of the motion.

Mr. Billings (Ottawa) spoke in the interests of those outside of the Association, and thought that the members of the Association would do better to hold on to the distinctive title "Registered Architects"—that the system of men styling themselves "architect" was in existence long before the formation of the Association and that nothing should be done to injure them; in his own city of Ottawa there are architects better than some of those who have been accepted by the Association—men with better education and training. In reply to an enquiry Mr. Billings stated that these gentlemen had not stated to him their reasons for not coming into the Association. But these men would certainly object.

Mr. Curry drew the attention of the members to the fact that any man practising as an architect has the right to come into the Association, and contended that if a man did not want to avail himself of that privilege, it was his own lookout. If the Legislature, in looking after the interests of the public, hold it to be a good thing that men practising the profession of architecture shall become educated and properly qualified to do the work that is entrusted to them, it is not then infringing upon the interests of any private individual to say that men following that profession must become educated if they desire to use the title "Architect." Up to the present time any man practicing the profession can come in. The Legislature has the right to say, "You shall not follow any profession requiring certain standards of efficiency unless you are prepared to take a course of study and pass certain examinations which will show that you are capable of doing the work properly, for the benefit of the public." (Hear, hear).

Mr. Billings stated that he did not object to wanting every man to pass an examination and to have a certain degree of competency, and that no doubt those men who would become clients of architects would desire it; but that he desired that there should be some distinctive name by which the public shall know whether these men had passed examinations or not; and contended that if a man wanted to engage the services of someone who was not a registered architect, it was a matter for the client and not for the Association.

Mr. Darling held that where it was perfectly competent for the man to join the Association if he wished, if he did not do so he ought to suffer for it, as the Association is for the public good.

Mr. Curry thought that the Association having now got in such a shape that they can give the education that the Department asked for, and having put it within the range of all who wish to come into the Association on its present standing, that the Association can now claim that they have filled their part and have done all they were asked to do, that the Council should now be given very full power to obtain the full privileges that the Association should possess. Mr. Curry stated that Mr. Darling would take his place as mover of the resolution, which would now be seconded by Mr. Wagner.

The resolution as it stood was then put to the Association: "Moved by Mr. Darling, seconded by Mr. Wagner, that the Council is hereby instructed by the Association to use their best efforts to have the word registered struck out of the Ontario Act," and was declared carried unanimously.

The Association then adjourned to witness the experiments in the testing laboratory conducted by Professor Galbraith and his assistants.

After luncheon, which was served in the building, the members met again at 2:30 p.m.

AFTERNOON SESSION.

Messrs. Hutchison and Clift, of the Province of Quebec Association of Architects, having arrived during the morning, entered the Convention at the beginning of the afternoon session and were warmly welcomed by the meeting.

The first business was the consideration of the draft form of indenture for student apprentices, printed copies of which had been distributed on the previous afternoon that it might receive proper consideration before being discussed. Several members had questions to ask or suggestions to make. The indenture was finally referred again to a Committee with instructions to make certain additions and have the indenture lithographed for distribution to members of the Association.

The Hon. G. W. Ross, Minister of Education, having entered the meeting was invited to a seat beside the President. At the close of the discussion on the indenture, the President presented Mr. Ross to the meeting amid applause.

Mr. Ross expressed the pleasure he felt in meeting with an Association composed of representatives of the profession from all parts of the province of Ontario. He sympathized very heartily with the efforts of the Association in endeavoring to give the profession a higher educational status. The legislation which he had the pleasure of promoting a few sessions ago laid the foundation for the better training of the profession; and the cordial manner in which that legislation was received by the profession was a proof that they were anxious to rank with the other learned professions of the country. He referred to the establishment of a department of architecture in the School of Science, and observed that the Ontario School of Practical Science was the only institution of the kind in the Dominion of Canada that provided special instruction in this line. Some years ago he visited the leading schools of the United States, such as Cornell, Lehigh, and the Boston Technological School, and found that the Americans had provided very liberally for education of this kind; and he felt it to be his duty to place within the reach of Canadians equal facilities. He was pleased to notice the cordiality which existed between the profession and the faculty of the School of Science, and trusted that their mutual efforts in this respect would have the effect of improving the public taste in matters of architecture and all that pertains thereto. The last few years furnished abundant evidence that in this respect there was a great change. He felt honored because of their holding their meeting in the building, and trusted that nothing would occur to mar the harmony which existed at present between the Department of Education and the Association.

Mr. Storm being obliged to leave the meeting in consequence of a business engagement, called Mr. Curry to the chair. As Mr. Storm was leaving the room, his portrait was flashed upon the wall from a magic lantern which was brought into play under the direction of Mr. Wright, of the School of Practical Science, to illustrate a talk upon house planning by Messrs. Townsend, Burke and Langton, which was the next thing on the programme. Slides had been prepared of the plans which were to form the objects of criticism and were thrown on the wall as required by the lecturers.

It was moved by Mr. Edwards, of Hamilton, seconded by Mr. Kennedy, of Barrie, that the thanks of the Association be expressed to the gentlemen who had just addressed them for the effort they had made and the trouble they had taken.

Mr. Kennedy, of Barrie, brought up the matter of taking steps to prevent the stealing of plans, etc., asking for the appointment of a committee to memoralize the Government.

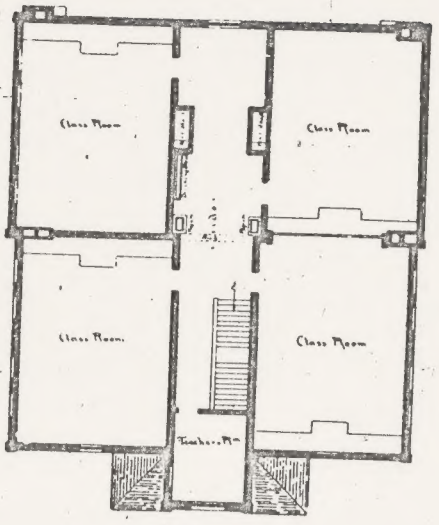
Mr. Townsend believed that it would be better for Mr. Kennedy to simply request that the Council should take the matter up, and he was sure the Council would do everything necessary in the matter.

Mr. Gouinlock, who seconded Mr. Kennedy's motion as first made, agreed to the change; he had now in progress an action in this matter, and would be very glad to see some action taken.

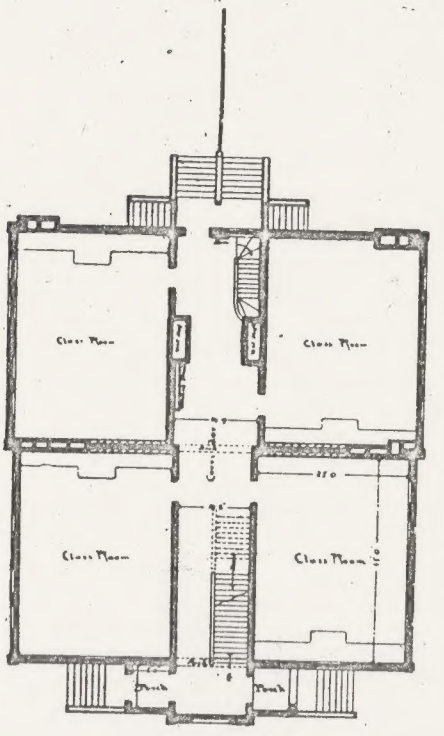
Mr. Gordon thought that the present form of contract covered everything necessary; the plans must be returned before the final certificate is given.

Mr. Gouinlock knew that, but would like to have some remedy if possible, and trusted the council would take it up as suggested.

Mr. Bowman agreed with the preceding speakers; he had had—

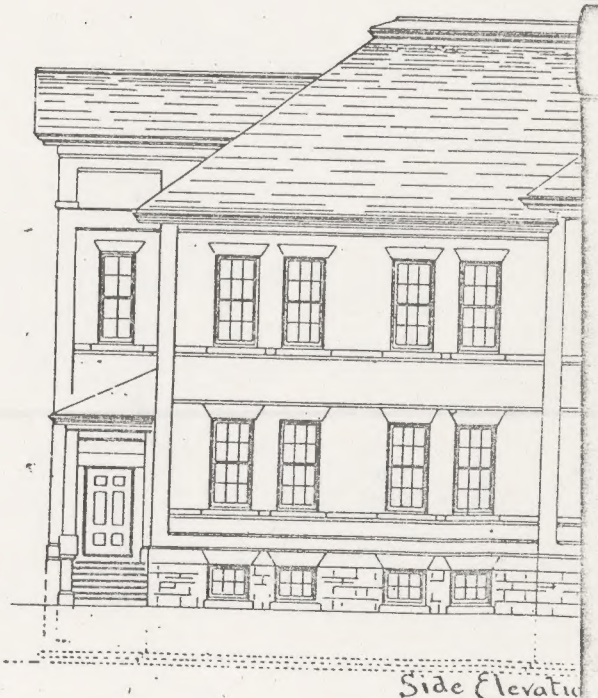


First Floor Plan



Ground Floor Plan

Front Elevation.



Side Elevatio

PUBLIC SCHOOL, GLADSTONE AVENUE, TORONTO.—S

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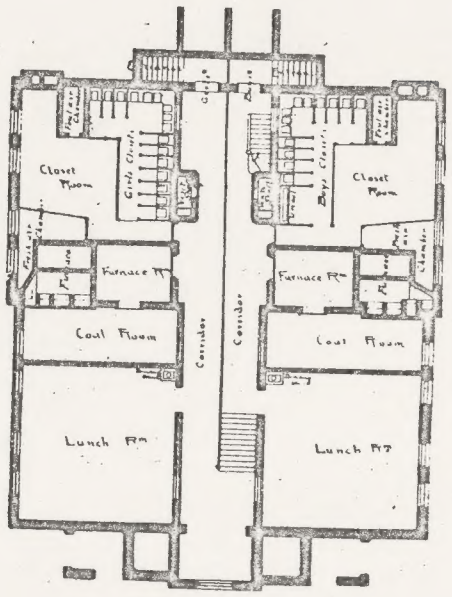
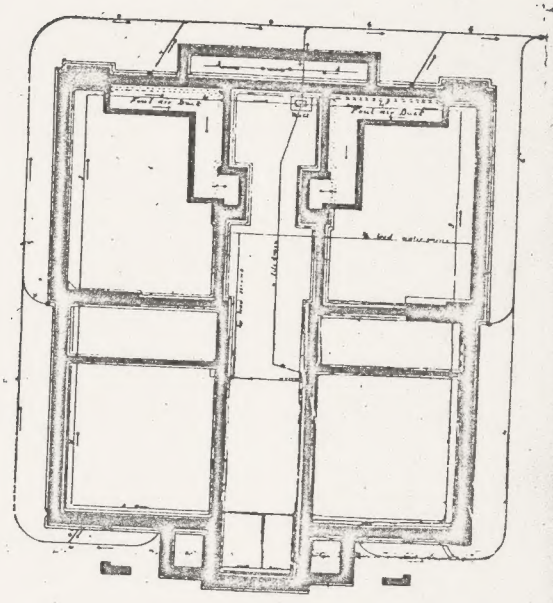
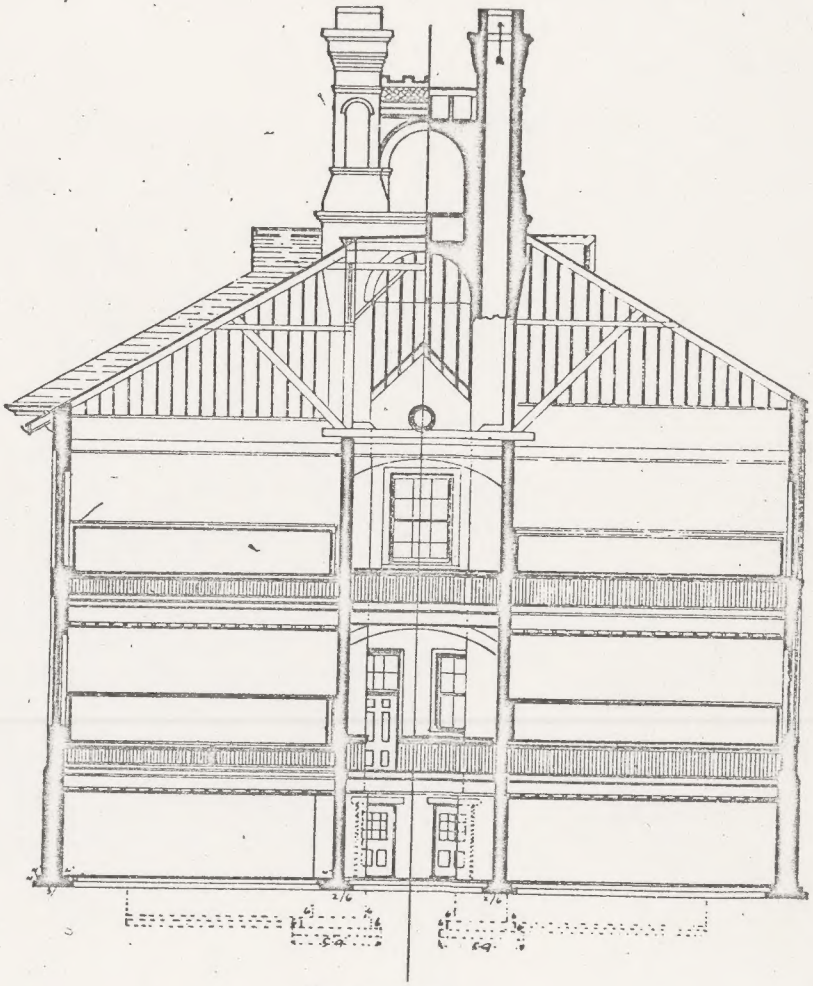


Basement Plan



Foundation

Elevation.

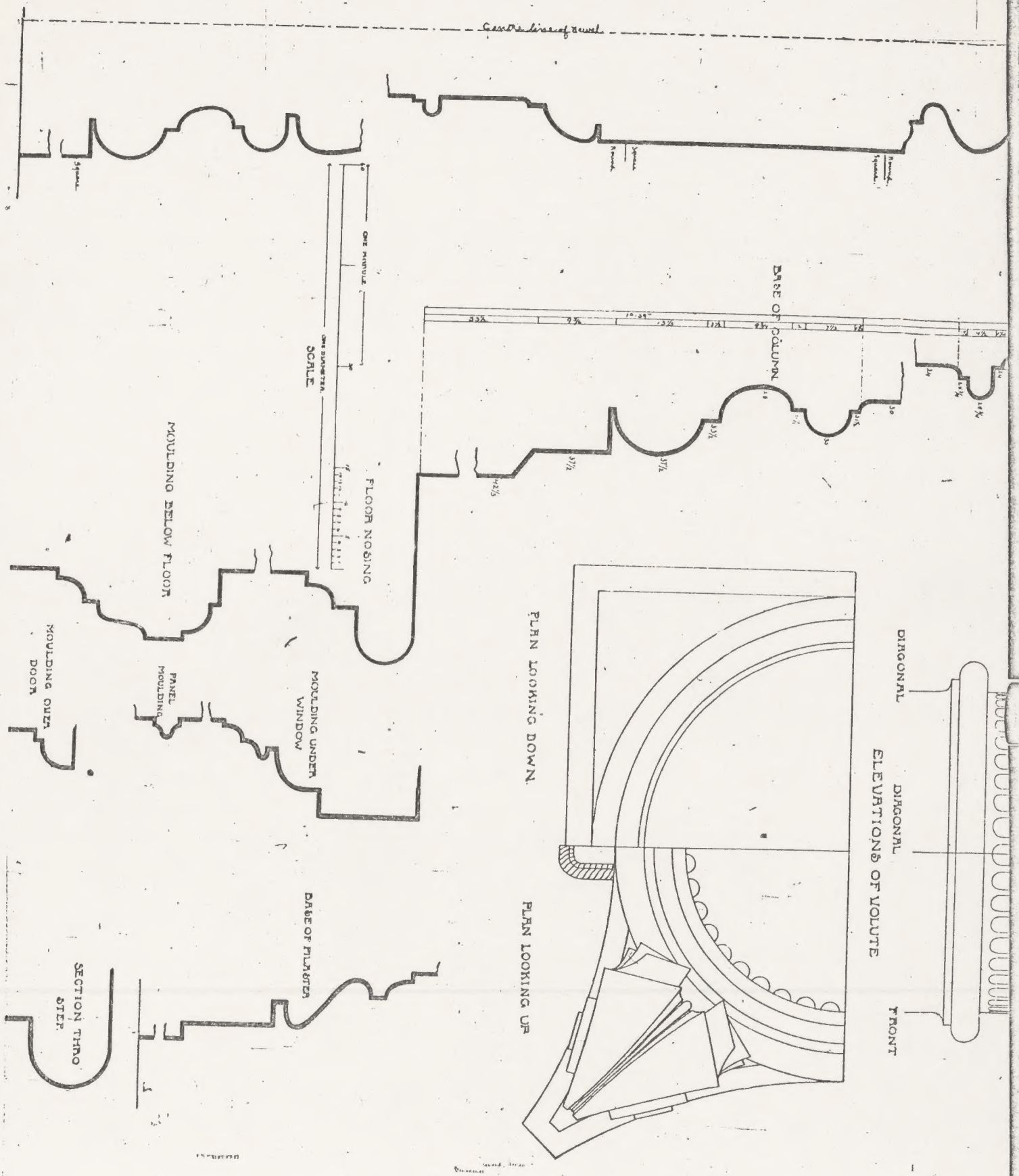


Sections

TORONTO.—STRICKLAND & SYMONS, ARCHITECTS.

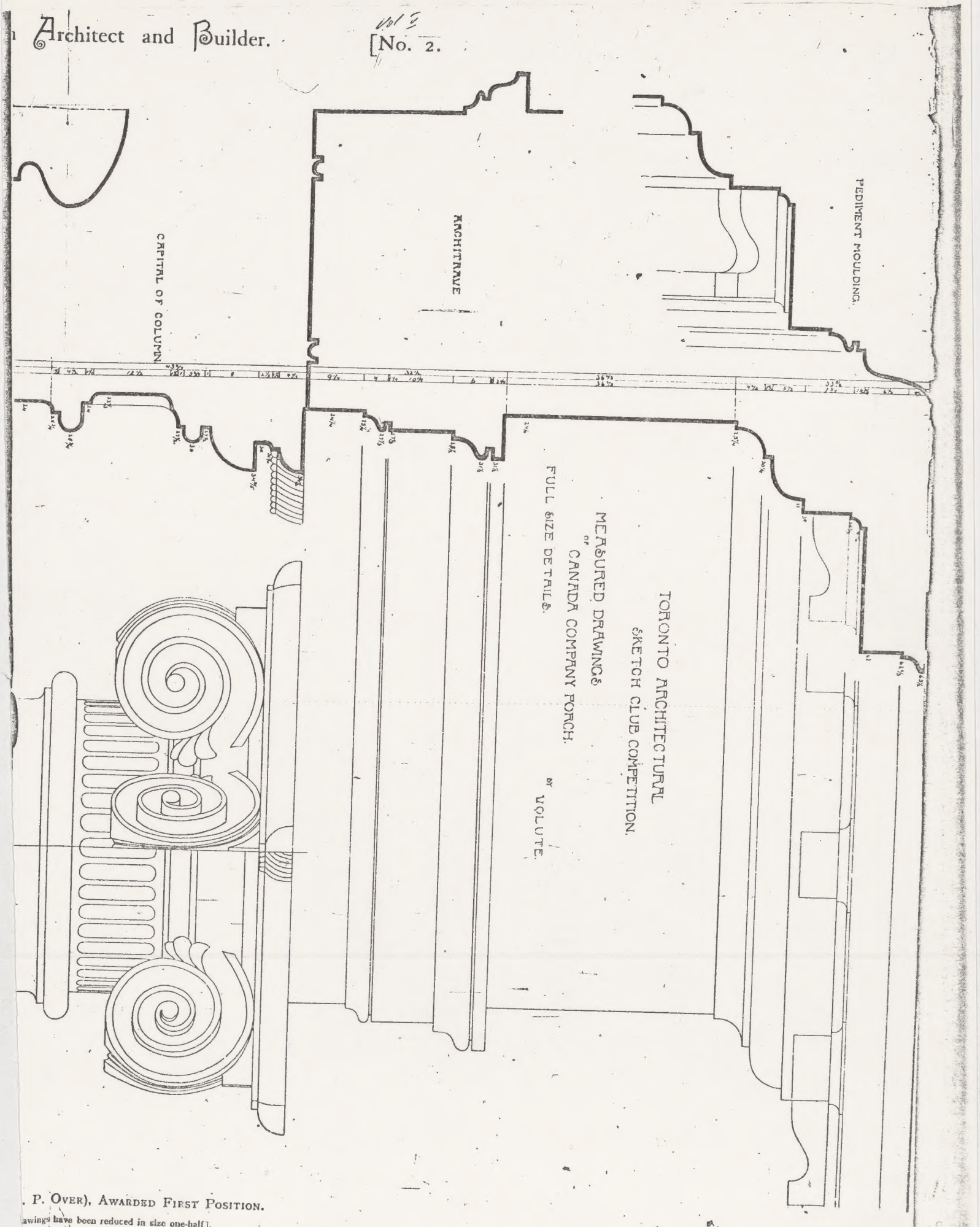
2, ON "HOW TO ESTIMATE," BY W. H. HODSON.

#2



DRAWINGS BY "VOLUTE" (MR. W. P. OVER),

[NOTE.—To admit of publication, Drawings have been



. P. Over), Awarded First Position.

awings have been reduced in size one-half].

his plans traced and used in similar buildings. He thought it was a matter which the Council should consider, and hoped for definite action.

Mr. Curry stated the motion to be that the Council should take such action as they might deem necessary to protect architects' plans, specifications and details from improper use. This was put to the meeting and carried.

Mr. Gordon mentioned that there was an instruction to the Council to prepare a blank form of certificate at the last session; he was not sure whether it was in the minutes or not, as he was not present when they were read. Mr. Langton explained that it did not appear in the minutes because the discussion came to nothing; as there was no motion carried it was not put in the minutes at all.

Mr. Curry reminded the Association that they had two members of the Quebec Association present, and thought it would be well to hear from them as to what could be done to bring the Associations closer together. He first called on Mr. Hutchison to give some information with regard to the position of the Quebec Association.

Mr. Hutchison, who was received with applause, assured the members that it gave him great pleasure to meet with this Association. The Ontario Association was the first to obtain a charter from the Provincial Government, and this fact encouraged them to try to obtain a charter from the Quebec Government. The Quebec Government had followed pretty closely the example of the Ontario Government, so that the charter of the Quebec Association contained very much the same provisions as that of the Ontario Association. In the matter of a tariff for professional services in Quebec, they were formulating a tariff which is to be submitted to the Governor-General in Council; and after it gets his approval, it becomes the legal scale of charges. Their Council had taken the matter up and, after a great deal of trouble, prepared a tariff of charges which they submitted to the Quebec Government some months ago; but the recent trouble in the Government had prevented the completion of the matter. Before this trouble arose, when they were before the Government, the question was asked, "Has the Ontario Government sanctioned a tariff of charges for the Ontario Association?" They were under the impression that it had done so, and said so. This they had afterwards to correct. So it was evident that the Quebec Government were following very much in the wake of the Ontario Government in dealing with the architects, so that a great deal would depend, as far as the Quebec Association obtaining Governmental assistance is concerned, upon what the Ontario Association obtained from their Government. There seemed to be a feeling that they would not be behind in this matter. He thought that the two Associations could work together very advantageously in the matter of obtaining the imposition of a tariff upon plans coming into this country from the United States. He looked forward with a great deal of hope to the assistance that the Quebec Association would receive from the Ontario Association in this and other matters. He had great hope that the formation of these two Associations would elevate the standard of the profession generally. (Hear, hear.) This would be a matter of slow growth; but as they compel young men who enter the profession to show a high standard of education, there was no doubt that, in the course of a few years, they would certainly elevate the tone of the whole profession. So far as it was in the power of an individual member of the Association he intended to do his utmost at all times to raise the standard to the very highest. (Applause.) They had difficulties to contend with in Quebec that perhaps there would not be in this Association. They had the dual language, though he had to say their French architectural friends had shown a great deal of interest in the Association, and he hoped they would continue to do so. He was sorry that no member of the Quebec Association had time to prepare a paper to be read at this meeting, but he could give a practical talk on the application of ventilation to hospital buildings. (Hear, hear, and applause.)

The Chairman then introduced to the meeting, Mr. Clift, Sec. of the Quebec Association, who assured the convention they did not know what pleasure it gave him to be with them. He wished that more of the Quebec members had been present. The Quebec Association had only been in existence about two years, and so had not got so many members as the Ontario Association; there were only some seventy architects qualified, and a good number of students. When they saw that an Association was being formed in Ontario, it began to be talked about by the architects in Montreal whether they could not do likewise, and bye and bye they succeeded. He took the opportunity to thank the officers and members of the Ontario Association for the assistance they had rendered him in his official capacity; they had always been willing to give him any help needed. He was sure the Council and members of the Quebec Association were heartily thankful for the assistance rendered. Mr. Clift then advocated the desirability of forming a joint association for the Dominion, with headquarters in Toronto, and local associations with officers and powers as at present. He knew it was the feeling of a great many architects in the Quebec Association, and thought the sooner it was done the better. He did not think it would be a difficult matter; provincial charters had been obtained, and a Dominion charter would be given almost as a matter of course.

The Chairman expressed the pleasure the members of the Ontario Association felt in listening to Messrs. Hutchison and Clift. With reference to the proposed Dominion Association, the Chairman thought it unwise to pledge themselves to any definite action, but thought the Association would second any efforts made by the Quebec Association.

Mr. Clift desired to move a resolution, and on being assured that members of the Quebec Association were expected and had the right to take part in the proceedings of the Ontario Association, he suggested that the two Councils should form a committee to consider the probability of forming a Dominion Association.

The Chairman thought the better way would be, as the idea originated with the Quebec Association, that they should have the privilege of taking the first step.

Mr. Hutchison stated in reply to an enquiry by Mr. Bousfield that all that his Council could do would be to consult about the matter and arrange preliminaries; it would take an annual meeting to perfect the details.

Mr. Bousfield supported the proposition, but the chairman (Mr. Curry) thought it would be as well to allow this matter to stand for a while, so that it might be discussed thoroughly. There was just one thing against it at the present time; he thought it would be better to perfect the Provincial Associations, both Ontario and Quebec, and get them running in good shape, or they would be trying to cover too much ground. They certainly looked forward to a Dominion Association, but it would be better to bring to perfection the Provincial Associations first.

Mr. Jarvis brought up the question of having as a building inspector a properly qualified architect, one who could see in a moment the merits and demerits of a set of plans, and who could readily notice points in construction.

Mr. Gouinlock did not think that this was a matter for the Association, as it concerned only the Toronto architects, and further consideration was postponed.

No further business being offered, the Chairman announced the election of three members to the Council, and suggested Messrs. Hutchison and Clift as scrutineers, which proposition was received by the Association with applause. Mr. Frank Darling, and Mr. Fuller, of Ottawa—the latter at the request of Mr. Billings—and Mr. Lennox had their names withdrawn as candidates.

While the ballots were being counted, Mr. Gordon moved that it be an instruction to the Council for this coming year that they consider the advisability of formulating a blank certificate for the general use of the profession. No action was taken in this matter by the Association.

Mr. Bousfield moved a vote of thanks to the retiring President, Mr. W. G. Storm, for the trouble he had taken during his three years of office; he had not spared time or money in his efforts for the good of the Association. He understood that Mr. Storm, under the constitution, could not be elected President for two consecutive terms, and, as he had now finished his first year since reorganization, although the third in point of fact, he was obliged to vacate the chair; Mr. Bousfield considered this all the greater reason why they should tender him a hearty vote of thanks.

Mr. Power, of Kingston, seconded the motion.

The Chairman, in putting the question, which was unanimously carried, stated that he believed a great deal of the success of the Association was due to Mr. Storm's efforts. As Mr. Storm was not present, it was arranged to formally present the thanks of the Association to him at the banquet in the evening.

Upon motion by Mr. Dick, seconded by Mr. Darling, a vote of thanks was passed to the Minister of Education, the Hon. Mr. Ross, for his interest in the Association, and to Prof. Galbraith and Mr. Wright for their assistance.

The Registrar also received the thanks of the Association.

Mr. Hutchison and Mr. Clift then announced the result of the election as follows: There were thirty votes cast; Messrs. King Arnoldi, Edmund Burke and John Belcher have a majority of all the votes cast. (Applause.)

At the suggestion of Mr. Gregg, the Chairman thanked Messrs. Hutchison and Clift for their attendance at this meeting.

THE BANQUET.

On Wednesday evening a banquet was given by the Toronto members to the visitors from a distance. About seventy persons were present. Mr. W. G. Storm, President of the Association presided. With him at the head of the table were Mr. A. C. Hutchison and Mr. C. Clift, of Montreal, representing the Province of Quebec Association of Architects; Mr. Emerson Coatsworth, jr., M.P. for East Toronto; Prof. Galbraith, of the School of Practical Science; Mr. Kivas Tully, Architect Public Works Dept., of Ontario; Mr. Jas. Bain, Public Librarian, and others.

The *menu* was of excellent character, superior in fact to that of the previous year. After proper attention had been bestowed upon it, the President arose and in a few appropriate words proposed the first toast, "The Queen," which was heartily responded to by all present singing "God Save the Queen," followed by three hearty cheers.

"Our Sister Society of Quebec, with whom we wish always to remain on the same friendly terms as at present," coupled with

the name of Mr. Hutchison, met with a most cordial reception.

Mr. Hutchison, upon rising to reply, said it gave him a great deal of pleasure to be present representing the Association in the Province of Quebec. He would have preferred had the president or some of the vice-presidents been present, but it had not been convenient for them to do so. He had been favored with prior invitations to attend the annual banquet of the Ontario Association, but had never been able to avail himself of the pleasure of a visit until the present occasion. He thanked the Association for the very hearty manner in which they had drunk the toast to the Quebec Association, and desired to reiterate the sentiment expressed that the good feeling which at present exists between these two Associations may always continue. In Quebec, before the formation of the Association, their experience had been that the architects were like the Ishmaelites of old their hand was against every man, and every man's hand was against them. If the formation of an Association had done no other good, it had certainly tended to remove that feeling, and was bringing the members of the profession more into contact one with another, so that they were finding that they have many things in common. No doubt the experience of the members of the profession in Ontario is very much the same. The Association has had the effect of bringing the architects in the different cities into much closer fellowship than existed before, and it is hoped that that effect will increase. The speaker said that the time may come when instead of having two Associations, there shall be an amalgamated Association which will embrace the whole Dominion, with the different provinces having their own local associations for the management of local affairs. It might be years before this could be accomplished, but he for one would do his utmost to bring about that happy consummation, and he hoped that the movement would be seconded by the profession in Ontario and Quebec. The speaker said that the first time he received an invitation to the annual banquet, while not able to attend, he wrote a lengthy letter to the Secretary expressing his hope that the Ontario profession would not stop at the formation of mere Provincial Associations, but should always aim at forming a Dominion Association. The Ontario Association being the oldest and the largest, the Quebec Association would look to it for guidance and direction in many affairs. It was largely through the fact of the profession in Ontario having obtained a charter from their Provincial Government that the Quebec architects were enabled to get a similar one passed there, and it was likely that whatever was obtained by the profession in Ontario would be obtained from the Legislature in Quebec. The speaker expressed his strong desire that everything should be done to foster good fellowship between the two Associations, and that when the Quebec Association meets in its annual gathering in October (which was a very pleasant time of the year for a pleasure trip) some of the members of the Ontario Association might be seen down there to give a cheery word and help forward the work. While the older members of the profession may not gain any great benefit from the formation of these Associations, the speaker thought that those who helped in the formation of the Associations had laid such good, deep and strong foundations for the future that the rising generation of architects will certainly be brought into a better position than was occupied by the seniors. He was glad to learn that the Ontario Association had been so far helped by the Government founding the Chair of Architecture in connection with the School of Practical Science. While the Quebec Association might not be able to look for any similar help from the Legislature of the Province of Quebec, they had great hopes that before very long they would have a Chair af Architecture established in connection with the Science Department of McGill College, which, through the liberality of two or three citizens of Montreal, has been put on the very best basis for a science education. During the past two years very large and extensive buildings had been erected especially for that department, so that now they were in a position to give a thorough scientific education. If to that they could add the art education necessary to complete the education of an architect, he looked forward to the young generation of architects being fully equipped by proper training and education to carry out the work. He did not know what kind of architects the training schools might turn out, but had no doubt they would lay a proper foundation so that a young man might be able to apply himself to any one of the three classes of work—business, constructive or artistic—or, if he had the genius, he might apply himself to all three. He looked forward with great hopes to the rising generation of architects taking a higher and better position than the seniors have done. (Applause.)

Mr. Gordon, rising to propose the toast to "The Government of Canada," said he desired to propose a toast in which all would heartily join, more especially as it was coupled with the name of one whom all rejoiced to see present that evening. He rejoiced in being permitted the honor of giving the toast of our Government, and more particularly joining with it the name of Mr. Coatsworth, member for East Toronto. (Applause). All were glad that our Government was, to a limited extent, a paternal Government. While the Local Legislature had given the Association incorporation, and the aim of the local Associations should be to obtain Dominion organization, the Association could rejoice that they had such staunch friends as Mr. Coatsworth and the other representatives of this city, and representatives from other cities who have expressed their willingness and desire to do all in their power to establish the architectural profession on a higher basis. Perhaps the only thing they could grumble at was that the Government had been a little too good to them and given them a little too much title, more than they anticipated—in giving the Association a "Registered" title. Titles generally carry some privileges with them; as the Ontario Legislature had given the Association this title, they thought the Dominion Government should give something to go along with the title; that is, a little protection not exceptional protection. They did not want class legislation. The profession in this country was ready to stand upon the same footing as ordinary citizens in that respect, but certainly they ought to have the same protection as other citizens in the pursuit of their calling, and the laws on the Statute book should be carried out and not set aside to the detriment of their profession. The speaker referred to the customs duties in reference to taxing of plans and other professional matters coming into Canada, and claimed that the way the customs duties are now levied on plans, drawings, tracings, &c., for many important buildings was a farce. While he held that any private individual has a right to employ whoever he likes, he also contended that no public corporation, and more especially a government, had any right to go outside of its own country for that which can be as well fulfilled by those who are its own citizens and are helping to support it and should have the first claim and even the preference. As possibly Mr. Coatsworth might be called upon in his official capacity, along with the other representatives of the people, to see that this matter of the customs duty is properly carried out, it might be as well that some facts should be in proper shape for both the Government and its supporters to act upon. Many thousands of dollars are lost annually to the Government through lack of system and understanding in the appraising of plans. A man can get plans from the other side for a very important building, costing perhaps $100,000, and tracings and copies can be sent from his office and appraised at a mere nominal sum. The speaker also referred to the subject of a Dominion Association. The Provincial Associations can approach the Government and urge upon them the necessary procedure with regard to the customs duties and other matters affecting the profession at large; but if there existed a Dominion Association, with these Provincial Associations in some way in affiliation, no doubt the position of the profession would be strengthened, and they could go before the Dominion Government in a much more representative capacity and would be able to voice the opinion of the profession from one end of the country to the other. (Applause). The architectural profession perhaps comes more closely into contact with the general public to-day than any other profession—certainly conduces very largely to the comfort and prosperity of the people—and as such should receive a great deal of attention from the Government. In the future, and that before Utopia will be reached, there would be a Department of Architecture in the Government.

Mr. Emerson Coatsworth, M. P., in responding congratulated the Association upon its standing, assuring them that as a professional man he sympathized with their desire to uplift their profession, not only in the Province of Ontario, but in the whole Dominion, and stated his belief that the time was coming when the professions would be elevated to a standard of professional education so high that no inferior man would be able to hold any place with others in the professions, and no outside element would be able to compete with professional men in their own country. (Hear, hear.) He sympathized very strongly with the expressions he had heard in reference to the competition which the Association had to meet, and which to his mind was a somewhat unfair competition. It was his opinion that just as good work, and possibly better work, could be had for less money from Ontario architects than was being got at the present time from foreign architects. As to the suggestions made in regard to duties, it was only fair that reasonable protection should be afforded to architects. Industries of various kinds were protected in the Dominion, and he saw no reason why the industry of the architect should not be protected as well as the industry of the mechanic; and, as he had already promised privately to one or two gentlemen that evening, so far as he personally was concerned, he was prepared to use his influence on behalf of the architects of the Province of Ontario in order that they might be able to compete with others outside on favorable and satisfactory terms, being sure it would result in just as good work, and probably better, with less cost, and would also keep the money in our own country. (Applause.) The speaker congratulated the Association on the progress which had been made in the very few years since organization. It spoke well for the genius, industry and talent in the profession that so much could be accomplished in such a short time, and that there had sprung up among the members of the profession in Ontario and Quebec such an *esprit de corps* which leads on to greater heights, as it does all men who have that feeling among them of generous rivalry, which prompts them to be the best they can in their own sphere. He believed there was as much science in architecture as there was in law or in medicine, and that, therefore, the architectural profession should stand, as far as rights and privileges were concerned, as they do in intelligence, integrity and all other good qualities, with the other professions. When the time came that the profession was ready to form a Dominion

Association, he offered his services most heartily, and would be glad to do all he could, not only in Parliament, but also with the members of the Government who have influence in these matters, to aid in the formation of the Association. Again thanking the Association for the honor of the toast so heartily and loyally drunk to the Government of the Dominion of Canada, the speaker resumed his seat amid applause.

Mr. Dick, rising to propose the toast of "Technical Education," which was coupled with the name of the principal of the School of Practical Science, said it was quite unnecessary that he should say a single word to convince any member of the Association of the necessity for technical education; perhaps there was no profession where it was so necessary that a man should be a good all-round man in order to succeed. If an architect be not a good all-round man, he must associate with himself others who would supply the branches in which he does not excel himself. There were many excellent examples in the United States of that kind of division of labor, which perhaps after all, was the very best thing which could be had at this day, for excellence in particular departments is the only sure road to success. A man may acquire the business element by rubbing up against his fellows; the artistic he would study for himself, but the technical he had to acquire. The School of Science was being gradually developed; it had not reached its full development, but it was hoped that through the liberality of our Government, and perhaps private munificence, it would yet be placed in a position to compete with the older institutions which had large endowments and were gradually being put in positions of first-class efficiency. It was not behind any of them in one respect. It had the men, if they were only provided with the means. Something had been seen to-day of what was being done in the School of Science in the matter of providing materials for forming tables of the strength of materials. Architects had been going largely upon tables which had been constructed from experiments on a small scale, and which were unsatisfactory. The first test made in the morning showed how very erroneous some of these tables were. It was on a beam, with a cross strain, a piece of pine timber 10 x 10 inches square and eleven feet long. According to the calculations made by different formulæ, in different text books, the beam ought to have stood, before breaking, from 30,000 to 40,000 pounds; while as a matter of fact, it began to give way under a strain of somewhere about 12,000 to 13,000 pounds. The rules were made by taking a piece of wood an inch square, with a certain pressure, and multiplying both by a certain number; thus saying that if a stick one inch square would stand a certain strain, a stick of twelve inches square would sustain a proportionately larger strain. The difference was largely caused by the fact that where a stick one inch by one inch was taken, it would be practically a perfect stick, free from knots, shakes, &c., while the pieces which have actually to be worked upon might have shakes and knots but which yet might not be so bad that the piece could be rejected and actually refused. Calculations must be based not upon the excellent quality of a piece of perfect timber, but upon the timber which actually had to be dealt with; and it was only when such machines as were now being introduced in the School of Practical Science were used so that a piece of timber might be tested, that tables could be got which would be of actual value. There was no doubt many buildings were now being subjected to greater strains than their designers intended; and that many buildings which were standing, and apparently safe, might be very near to the breaking point, but nobody knows of it until the crash comes. No doubt the testing of materials was in its infancy, and the School of Science had entered upon a career which would yet result in giving a great deal of valuable information which would be the means of enabling members of the profession to know definitely what they were doing, instead of trusting to empirical rules that might fail them at some very critical point, resulting in loss of property and, perhaps unfortunately, in loss of life, on account of the failure of some structure which, according to the calculations, ought to have been perfectly safe. The School, he was happy to say, had been organized under the care of a man whom all who knew him were thoroughly satisfied was entirely qualified for the position. They did not know where to find a better, and did not want to look for any better. The only regret they felt was that it was not possible for all the young men who proposed to be architects to put themselves under his care and go through the curriculum which has been laid down in the School. Most young men were a little too old when they left school to go through a course of technical training, and then go through another course in an architect's office. A problem which the principal and his coadjutors have to solve was how they could arrange the curriculum so as to give the young men that go into the School such a training that a comparatively short time would be all that would be necessary for them to pass in an architect's office, after they left the School, to enable them to go out into the world and announce themselves as full-fledged, capable and well-qualified architects. The company present were then called upon to drink the toast "Technical Education," coupled with the name of Prof. Galbraith.

Prof. Galbraith in the course of his response said that he had been reminded, since they had the opportunity of using the testing machine in the School of Science, of the very little that is known about the strength or elasticity of building materials. It was laid down in the curriculum as a science which could be taught and as a thing the results of which were pretty certain, much in the same way as the science of astronomy or chemistry or other sciences, whereas it was in a very different condition. In astronomy the positions of the various planets could be calculated beforehand, and in chemistry, the results might be known beforehand. But how little could be said about the strength of any member of construction! It seemed marvelous that a science so intimately connected with safety and comfort, and in which we have the experience of all the ages, should be practically no science at all. The principles that are settled in the science of materials can be summed up in a very few words. Then when they are applied you have to multiply your results by the thing called the "Factor of Safety," which has been well-called the "Factor of Ignorance." Instances of that were seen this morning. According to the formulas the beam should have been twice as strong as it really was. Very few who had not seen experiments conducted on the same scale, could have said anything about it at all. So it was throughout the whole range of the science of strength of materials. When a young man begins to study the strength of materials he asks, "What is the breaking strength of a certain material?" which shows the misconception which attaches to the whole subject. When he came to look into it a little more closely he would find there was no such thing as the breaking strength of any material, in the proper sense of the word. A piece of pine or steel might be broken in an infinite number of ways, and under all sorts of strains, while the question just spoken of implied there was only one. It was known that the rods in a railroad bridge or a roof truss, might last for years and then break down; that test of practical service and the test in a testing machine were entirely different. Strains can be applied to a piece twice, and a less strain will break it applied a second time, than when applied only once. Another strain could be applied three, four or ten times and be less than the strain which was applied once or twice. This could be multiplied an infinite number of times. He had no hope that the science of the strength of materials would ever be developed to such an extent as to enable them to build with the factor of safety of one, that is, that they would be able to design a piece to last under such conditions as those under which it would be intended to be used, a certain number of years and then break down. Although they knew all about the material, and had carried on the experiments that would determine the various breaking strains of the material, they were entirely ignorant of what force a structure would be subjected to after being built, so they would always have to apply the factor of safety—the factor of ignorance. They would, possibly, not be factors of ignorance at the end of a thousand years, as to the material, but would be still factors of ignorance as to the possible forces to which the material would be subjected. Machines had been invented in Germany by which repeated stresses could be applied to the same material. To give an example as to how often these repetitions take place, the speaker asked them to consider the case of one of the tie-rods in a Howe truss railway bridge. Suppose that in a bridge where, the traffic being very great, a train might cross the bridge every quarter of an hour through the whole day; that would make about 100 repetitions of that strain in the twenty-four hours, that multiplied by 300, to get the number in a year, would make 30,000 for the year; if the bridge should last twenty years, then it would be 600,000 repititions of the stress To investigate properly the strength of that piece, it ought to be subjected to at least 600,000 repetitions of the stress caused by the train passing, To do that under the proper conditions would require twenty years; life is too short for that; and the Germans had repeated this strain every minute, instead of every quarter of an hour. Even that required over a year to make the one experiment on the one rod, and then you know only the result for that kind of material and nothing else. That would give some idea of what investigation into the strength of materials meant; they would never see the end of it; those who live generations after would not see the end of it. Then it had to be remembered that there were all kinds of strains and stresses to structures. The machines which they had in the schools were only the modern development of the old-fashioned machines which determined only one kind of breaking stress, the stress which is produced by a load which is gradually increased up to the breaking point, and only applied once. They were utterly unable with their equipment to make experiments like the German experiments; they could not be done very well by steam power, because the firemen and engineers have to be at work day and night; the only possible way of doing it is where they have water power which could be set going and would not require very much attention, but would run on until the piece broke. So that although they were making great advances, they were precluded, in the School of Science, from their position, from going into the question to the extent to which they could elsewhere and under other conditions. At the same time by a judicious use of the factor of safety, they could make great use of the results, in designing. They would no doubt be able to reduce the factor of safety on some materials. The speaker was pleased to see that professional men were taking an interest in the School of Practical Science, and felt that it could be of some use to them; the only justification of the expense to which the Government had gone in fitting out

this School was that it put the architectural and engineering professions in touch with science. It was not proposed to go into it as a matter of amusement in any way. Meetings like those which had been held in the last two days strengthened the School with the Government and also did an immense amount of good to the students. Nothing would make the young men take more interest in their work than to see the older men in the profession interested in it; that was one of the greatest benefits that could be gained from meetings like the present. He had urged this upon the authorities and was happy to say that the Minister of Education, especially, had always shown himself open to argument in that respect. He had urged that the interruption to the immediate work of the School caused by these meetings was as nothing as compared with the benefits to the students. They could afford to let the work go a day or two for the sake of the stimulus and life that meetings like these put into their young men, and he hoped that meetings of all professional men connected with the work of the School would, in the course of time, be held in the School - that they would make that a gathering point. They had done that in Montreal; in McGill College the Faculty of Applied Science had done everything that they possibly could to bring the civil engineers, the mechanical engineers and the electrical engineers into connection with their school for the same reason; and that was the only true policy. It is a school that lays the scientific foundation for a practical education. They wanted this sort of thing, and to feel themselves working in the same lines, doing the work in the same lines as the professions, and helping them. After thanking the gentlemen for the kind way in which they had received the toast, the speaker resumed his seat amid applause.

Mr. Curry said he was called upon to propose the next toast, and as it was in reality to one of their guests, he would on this occasion reverse the order, because after all what they were particularly interested in was not the Public Library, but the librarian. As all were aware, Mr. Bain had taken a great deal of interest in the Architects' Association and in the profession, which interest he had shown in the trouble he had taken to place at their disposal the architectural works in the Library as far as it was in his power. He is also using his best efforts to have a room arranged, when additions are made to the Library building, where architects may freely consult the valuable professional works now in the Library. No doubt all here are aware that any member of the Association by applying to the Registrar can consult at the Registrar's office a great number of the architectural works which belong to the public library. It was not necessary that the speaker should enlarge upon the benefit this was to an architect; if he could have a work which he desired to look over, in a room by himself, with plenty of time and opportunity for the use of drawing materials, it was of very much greater benefit to him than if he had to go to a public institution where he could only work at a disadvantage. The Association was indebted, and all were personally indebted to the librarian for what he had done in that respect. The members of the Association could best show their appreciation of the efforts of the Public Librarian, Mr. Bain, by making, as far as possible, full use of the facilities which he had placed within their reach. He called upon all to drink to the health of Mr. Bain, Public Librarian.

Mr. Bain, replying, said he was very grateful to the proposer for the kind words which he had spoken. He was very deeply interested in the library, and looked on this act as an approval of his course during the last eight years and as a presage of their support for the future. He had given himself twenty years in which to make the Public Library; eight years had already gone by and he thought they had made a fair start. He had hardly realized that it had assumed the position it had until this morning when they had received from the English Government a series of papers in reference to the Duke of Clarence's funeral addressed to the "Public Library, Canada, British North America," and they were delivered to the Toronto Public Library. (Laughter and applause.) Some four years ago he had been exceedingly anxious that they should have a special architectural and fine arts room, and proposed that the room should be fitted up entirely for works of architecture and the fine arts, so that gentlemen who were anxious to examine books and large plans could do so, and have opportunities of looking at books on kindred subjects, such as stained glass, carving, etc., that would be necessary in their work. Unfortunately it required a great deal of effort to get the municipal body to move; however, two years ago he had succeeded in getting it passed, and had everything planned out for a very nice room when the matter was referred over for a few months. Plans were talked over, but just at that time, unfortunately, the people in the Argentine Republic took it into their heads to kick up a row. Messrs. Baring Bros., the people who floated the bonds for the Public Library, failed, and left them without money. He had been very pleased a short time ago at receiving a visit from Messrs. Langton and Darling to talk over the matter again, to see if it was possible to afford any room in the present building. He was afraid, owing to the pressure of books now, that it would be impossible, but he thought within twelve or eighteen months they would be able to provide it, and not only double, but treble their books on architecture. They were buying all the time, and never allowed a book, especially an expensive book, to pass. The cheaper books could be bought by architects for use in their offices day by day, but the expensive books that a man only occasionally wishes to look over, books which in many cases are the works of architects themselves, printed in small numbers and issued in their own offices. He hoped that the accumulation would be such that it would be satisfactory to the members of the Ontario Architectural Association.

Mr. Langley arose to propose a toast "To the Old Times and the New, in Architecture." He supposed that topic had been put in his hands to propose because he was considered to be getting to be one of the old heads. He accepted it as a compliment. He could look around on the company present and see many who had passed through his office—many of them now leading architects of the Province. It was a cause of sincere pleasure on his part. 38 years, lacking a month, had passed over since he went to serve his time; many changes had taken place in that period, and not the least among them was the marvellous advantages the pupils of the present day had as compared with those of thirty years ago. He was deeply gratified that two of his own sons were attending the School of Practical Science, with which Prof. Galbraith is connected, and having the advantages of the training which is to be obtained there. He had seen the profession increase in Toronto from about seven firms to nearly ten times that number. In connection with the toast he called on their friend, Mr. Kivas Tully, one very highly respected and very long in the profession, for a few words.

Mr. Tully in responding asked whether he was to represent the old times or the new. He was still in practice; he commenced serving his time 55 years ago, and it was for those present to say whether they would have the old times or the new. He should have liked to have had a young associate to support him under the great obligation of returning thanks for the new as well as he would try to do for the old. He had served his time in the old country and came here in 1844, when he found about four other architects here—Mr. Howard, the City Engineer, Mr. Thomas, Mr. Young and his (the speaker's) brother, who was serving his time in Mr. Howard's office, and himself; those were all the architects at that time in Toronto. He did not know how many there were at the present time, but he supposed about one hundred. He had to congratulate the profession upon having improved so much and having become such a promising body. He was sorry to say he was the only living representative of those five architects. He hoped that in the future the rising generation would do as good work as had been done in the past. (Applause). He had been very much pleased to hear the remarks which had been made by Mr. Dick and Prof. Galbraith upon the strength of materials. He advised the younger members not to skimp their work in any way, but to have plenty of strength.

The President called upon Mr. Clift, of Montreal, who responded with a few well chosen remarks for the "New Times."

Mr. Curry stated that he had a matter to introduce which had been postponed at the afternoon meeting. He had to inform the President that, in his absence that afternoon, while he (Mr. Curry) was occupying the chair, the Association passed a vote of thanks for the very great pains and trouble to which he had gone during the past three or four years to help forward the interests of the profession and the Association. The mover and seconder of the resolution and also several members of the Association had spoken very highly of the work which the President had done, and it was a very great pleasure for him now to also state that having been a member of the Council during the time Mr. Storm had been President, he could substantiate any statement which had been made as to the interest he had taken in the Association and the amount of work he had done on its behalf. In no particular had he shirked his duty, and had always been pleased to do all that lay within his power to assist the Association with his sympathy and also by actual work. By so doing he had benefitted the Association to a very great extent; it was work which possibly no one else could have done in as satisfactory a manner. He now desired to express to the President the thanks of the Association for what he had done in the past, and a wish that although under the by-laws and constitution of the Association, he cannot be the president for the following year, that in some other year or years he may be again at the head of the Association. (Applause). The speaker concluded by calling upon the Association to drink to the health of the retiring President and his success.

The toast was heartily responded to.

The president, responding to the toast, returned his thanks for the honor conferred and the eloquent remarks of Mr. Curry in proposing the toast and informing him of the resolution which the Association had so kindly passed after his departure from the meeting that afternoon. What little he had done to forward the interests of the Association during the past few years had been done with the greatest pleasure, and he felt that the appreciation of them was far beyond their value; what he had done would have been of no advantage to the Association had he not had with him a first-class working Council and also a first-class Registrar during the whole term. (Applause). These gentlemen were entitled to more praise than he was, for their untiring energy and devotion to the interests of the Association.

Mr. Jarvis proposed the toast to "The Ladies," coupling therewith the name of Mr. A. C. Barrett, who in graceful periods eulogized the fair sex. This brought to a fitting close a thoroughly enjoyable evening.

CANADIAN CITY ENGINEERS.

III.

AQUILLA Ormsby Graydon, City Engineer of London, Ont., also claims that city as his birth-place, having been born there in July, 1854. He is the eldest son of the late Simpson Hackett Graydon, B.A., T.C.D., of Dublin, Ireland, but practising barister in London, Ont., since 1853.

The subject of our sketch was educated at the public and grammar schools of London. In 1870 he entered the Merchants' Bank of Canada, having filled the positions of junior ledger-keeper, teller and accountant. He left the Bank in 1874 to become paymaster for Mr. Wm. Hendrie, contractor, of Hamilton, Ont., in connection with his contract for building the Wellington, Grey and Bruce railway from Listowel to Kincardine, and was in his service for four years, until all his railway contracts were completed, when he returned to London and articled himself to Messrs. Robinson & Tracy, both former City Engineers of that city. He studied engineering and architecture with them for four years, taking the degree of P.L.S. in his third year (1881).

Mr. Graydon was engaged on the construction of the London waterworks during 1882, and in 1883 opened an office for himself. He was appointed engineer of the townships of London, Delaware, Dorchester, East and West Nissouri and Biddulph, also of the London Provincial Line Road Co. Subsequently he laid out the Brampton, Ont., waterworks, and supervised the construction thereof until nearly completed.

In 1888 he was appointed Assistant City Engineer of London, and received the appointment of City Engineer in July, 1891, on the resignation of Lieut.-Col. T. H. Tracy, who was offered and accepted the City Engineership of Vancouver, B. C.

TORONTO BUILDERS' AND CONTRACTORS' ASSOCIATION.

A VERY enjoyable time was spent at the second annual dinner of the above Association, held at Webb's restaurant on the evening of the 11th inst. Nearly one hundred members and invited guests were present.

Mr. Geo. Wright, President of the Association, occupied the chair, being supported on his right and left by the Mayor and Mr. Joseph Tait, M.P.P. The vice-chairs were occupied by Mr. J. Lester Nicholls and Mr. David Williams.

Letters of regret at their inability to be present were read from Mr. E. F. Clarke, ex-Mayor, and Mr. John Webb, President of the Builders' Association of Hamilton.

The usual loyal and patriotic toasts were duly honored, Mr. Tait responding in happy style to "Our Legislators," and the Mayor to "The City Council." The latter took occasion to remark, that considering the importance of the building interests, and the frequent introduction of legislation in the City Council affecting these interests, he was surprised that the Association did not, as other organizations had done, appoint a committee to watch the proceedings of the Council.

"The Old Association" was responded to by Mr. John Lucas and Mr. Wm. Booth, President of the first Association organized by the builders of the city some twenty years ago, and ex-Alderman Farquhar.

Messrs. John Aldridge and M. Murphy replied on behalf of "The New Association," and Messrs. Moir and Goddard on behalf of "Kindred Institutions."

Excellent songs were sung by Messrs. J. Lester Nicholls, R. G. Kirby, H. M. Blight and F. Self, while Messrs. H. K. Cockin and O. A. Smiley favored the company with well-rendered recitations.

Credit for the success of the gathering is largely due to the committee of management, Messrs. Geo. Wright, D. Williams, J. Aldridge, J. Claxton, J. Goddard, J. Crang, J. Lester Nicholls and F. Powell.

It is understood that the Association is to some extent being reorganized on an improved basis. The annual meeting will take place next month.

OUR ILLUSTRATIONS.

TORONTO ARCHITECTURAL SKETCH CLUB MEASURED DRAWINGS COMPETITION FOR "CANADA COMPANY'S PORCH" —DRAWING BY "VOLUTE" (MR. W. P. OVER), AWARDED FIRST POSITION.

PUBLIC SCHOOL, GLADSTONE AVENUE, TORONTO.—STRICKLAND & SYMONS, ARCHITECTS, TORONTO.

MR. A. O. GRAYDON, CITY ENGINEER, LONDON, ONT.

PASSING EVENTS.

I heard a sermon recently from the text "Build yourselves up in your most holy faith." On the whole the subject may be said to have been well handled. After pointing out that every man is the builder of his own moral structure, the speaker proceeded to describe some of the requisites of a good building, such as a good design, a good plan, a good foundation, good materials, etc. Having safely got this far, he was tempted to go farther and illustrate his subject by directing the attention of his hearers to a building embracing all the requisites of good architecture. He pointed to his ideal in language somewhat like the following: "Take, for example, the new Parliament buildings in Queen's Park. As we enter them a glance at the long halls, large assembly rooms, etc., shows their adaptability to their purpose, while as we view their exterior we are lead to exclaim, 'Our sense of beauty is fully satisfied.'" I am charitable enough to presume that the preacher's religious ideals are of a higher order than is his artistic perception.

What resident of Toronto is not ready to express his gratification at seeing the sum of $20,000 placed in the estimates of the Parks and Gardens Committee of the Council for the improvement of the approaches to Queen's Park? I would like to entertain the hope that stone—artificial or otherwise—and asphalt will shortly take the place of the dilapidated cement sidewalk and macadam roadway which for the past decade have marred the beauty of Queen's Avenue. It is to be hoped the newly installed Council's anxiety for retrenchment will not lead them to apply the knife to this very necessary appropriation.

PASSERBY.

VALUE OF WATER WORKS.

From the Eighteenth Annual Report of the city of Grand Rapids, Mich., some insight into the financial value of water works can be gained. The report says:

"No credit has ever been given to the water works system for fire protection, which makes it appear at the first sight that the water system does not make a good financial showing. But taking into consideration the reduction of insurance rates on the residences, manufacturing plants, and all property liable to destruction by fire, it clearly shows that a water plant is the best paying investment that any muncipality can make. To illustrate: Information from insurance headquarters shows that the amount of property insured in this city is from $20,000,000 to $22,000,000. The rates of insurance are from one-fourth of one per cent. to five per cent. per annum. Before the establishment of the present efficient fire department and the existence of our water system rates of insurance were from one per cent. to ten per cent. per annum. From the same source we learn that the amount of property insured is equally divided between low and high rates, and that the average in insurance is fully two per cent., in consequence of the facilities for extinguishing fire. This would make a saving to our citizens of at least $40,000 per annum from this source alone during the past year."

PRESBYTERIAN CHURCH COMPETITION.

FOR the benefit of draughtsmen who are occupied before April upon the work of the Association examinations, the time for rending in drawings for this competition will be extended to May 21st next. All drawings must be marked by a motto or cypher, and the name and address of the designer enclosed in envelope bearing the same mark.

Dr. A. M. Rosebrugh, of Toronto, has patented a "Combined window ornament and ventilator," which consists of a short supplemental sash secured to upper window sash. This presents a direct draft over this upper sash when the same is lowered a few inches and provides for an indirect draft through the syphon-like space formed by the overlapping of the upper and lower sashes. This fans a gentle current upwards towards the ceiling and promotes the diffusion of fresh air without perceptible draughts. The supplemental sash may be plain glass, colored glass or bevel plate, and may be adapted to any building, new or old. When secured to the outside stops they do not interfere either with outside shutters or with winter sash. A company is being formed to operate the patent.

HOW TO ESTIMATE.

By W. H. Hodson.

FOLLOWING is a portion of the specification and bills of quantities accompanying the drawings of Public School on Gladstone Avenue, Toronto, appearing in this number. The balance of specification and quantities will be printed in next issue.

EXCAVATION, &C.

Do all excavation required for the basement and foundation of building to the dimensions shown and figured on the drawings, making the same 12" clear of the outside of footings of all outside walls. The excavation for basement and foundation walls, &c., to be taken out to the depth required, and level in all directions for footings and floor. The spaces outside of the outer walls to be kept clear of earth until the masonry has been properly pointed up and inspected and passed by the architects. The spaces around the outside of walls when directed by the architects are to be filled in with earth and the same well rammed and consolidated. The surface of ground around the building is to be cut and filled to the grade lines laid down by the architects, and in all cases so as to give a fall of at least 3 ins. in every 12 ft. outwards. The whole surface of lot as shown per block plan is to be cut and filled and graded to an uniform grade throughout, the earth arising from the excavations and cuttings being used for that purpose, so far as may be required, and the surplus earth (if any) carted from the premises.

DRAINAGE.

Provide and lay down all drainage as shown by the foundation plan, and in the most thorough and workmanlike manner, complete in all respects. Provide for and pay for 9 in. sewer connection from street sewer to street line. Provide and lay down 9 in. drain from point shown on plan to sewer connection, and provide and lay down 4 in. and 6 in. drains from the points shown on plans connecting with the 9 in. main drain, and with all proper Ys, bends, elbows and junctions and traps, &c., complete. Provide and lay down 3 x 4 in. common or weeping tile drains under basement floor, and connect same to the leading drain from basement. The drains are to be laid with best quality of American salt-glazed or Scotch vitrified drain piping, with socket joints connected with Portland cement, and to be laid with an uniform and sufficient fall, in no case less than ¼ in. per foot run of pipe. Care must be taken that every pipe is firmly bedded and packed so as to prevent settlement after the grade is fixed. The drains from water leaders are to turn up within 2 ft. of the surface to receive the same, and to be firmly packed in position and the mouth covered until the conductor pipes from roof are connected. Weeping drains are to be carefully laid in trenches prepared for same, and when laid to be packed around with fine broken brick and coarse gravel, and to have all connections made in the most careful and thorough manner. No drain is to be covered up until inspected and approved by the architects.

MASONRY.

The stone for footing courses and rubble masonry is to be of best quality of large sized Lake and Humber stone, in about equal quantities, and the "coursing" above grade lines to be built with Credit Valley grey stone. The mortar is to be composed of the very best quality of fresh burnt stone lime and clean coarse sharp grit sand in the proportion of 2½ parts of sand to one of lime, mixed with a proper quantity of clean water, and all well and thoroughly incorporated and tempered together. No "soft" or "loamy" sand will be allowed in the work. Lay the footing courses as shown and figured on sections with selected large lake stone thoroughly bonded and bedded firmly in mortar. Build up the foundation walls in good rubble masonry from top of footings to level of basement ceiling, to be 16 in. in thickness, built to a line on both sides and in 15 in. courses, in height corresponding to five courses of brickwork, and so as to bond with the inside brick lining to same as shown per plans and sections. The masonry is to be thoroughly bedded and bonded, each and every stone laid on its natural bed and "through-bonds" built in every 5 ft. on each course. The masonry is to be built plumb, square and true, on both sides of every wall, and to a fair face, and to be thoroughly flushed in at all beds and joints, and neatly pointed with the trowel. The outside face of *all outside* walls is to be plastered with a heavy coat of "cement mortar," composed of one part of best Portland cement to two parts of coarse and clean grit sand, properly tempered with water and laid on fresh as required, and not less than one-half inch in thickness, laid on evenly. The foundation walls above grade line will be faced with Credit Valley grey coursing of selected large stones, built in random coursed work in four courses of one foot each for the large blocks and the random work made up in from two to three stones. Each and every stone to have picked beds and joints, and to have a bed of not less than once and a half its vertical height. Every stone in the coursed work to have a clean and fresh rock face, free from all stains, flaws and other defects, to be hammer dressed to reveals of all windows, doors and other openings in same, and to have an inch margin draft of tooled work on all corners. The coursed work is to be painted with cement mortar composed of Portland cement, Smith's ashes and lamp-black, and each and every joint to be well cut and weathered and finished in very best manner. The foundations to two large vent and smoke stacks are to be laid with Dimension stone in two courses of eight inches in thickness, each properly bedded in mortar and thoroughly bonded, no stone being less than 4 square feet. Provide and lay *two* footing courses of 6 in. thickness under all internal brick partition walls, and one thickness of same under the brickwork of all "brick-setting" to heating apparatus and flues, as shown per plans, all built in the most substantial manner. Also lay one course of similar footings under the outside area entrance ways and steps, &c., all complete and as above described. The whole of the masonry is to be built with the best of materials called for, and in the most substantial and workmanlike manner, complete in all respects.

CARPENTER AND JOINER WORK.

All the wood work used throughout the building, play sheds and fencing (except otherwise specified) is to be of the best quality and description of white pine, free from sap, shakes, dead, loose and large knots, wane and other defects, and to hold to the dimension specified and figured on drawings, and to be well seasoned. Immediately the contract is awarded, the contractor will proceed to and procure all joisting and other dimension stuff, and have same on the ground ready prepared for the building as the works progress. In same manner all door and window frames are to be prepared in proper time and made ready for setting in the work as the same progresses. All window sash to be made and fitted at same time as frames are made, and then delivered to the glazier at his shop for glazing, who at the proper time will deliver the same at the building ready for carpenter to hang. All doors are to be got out loosely knocked together and stacked away in a drying house until required in the building, when they are to be properly cramped up, wedged and glued, fitted and hung to all in best manner. All doors, sash wainscoting, stairs, and other finished stuff throughout the building, including all door and window frames, etc., is to be of the best quality and description of clear and thoroughly kiln-dried pine, all well cleaned up after passing through the machines, and when fitted, to be left clean and in thoroughly good order to receive the painting. Ground and first floor joists to be 14" x 2" set 16" centres, the corridor and attic joists to be 12" x 2" set 16" centres. Provide and fix three sets of chain joists to the floors of the four upper class rooms (12 in all), built of two 14" x 2" joists with 1⅛" packing piece between, all well spiked together and with 1⅛" iron straining rod, 6"x8"x¼" end plates, and well threaded nuts and washers complete. These joists to be bolted together with ¾" iron screw bolts, with nuts and washers, 12 bolts to each chain joist. Trim for stair wells, ventilating stacks and hot air flue, with double 14" and 12" x 2" joists double tusk frames and spiked together, and for stairwells to be strengthened at the corner with 2 in. x ½ in. stirrup pins. Provide and fix wrought iron anchors to ends of chain joists, also to attic joists directly over the same, to be 2 in. x ½ in. x 3 ft. in length, turned up 6 in. at one end and built into brickwork, and the other end bolted to joists with two ¾ in. screw bolts. There will be 48 of these anchors required. Trim the attic joists for manhole in same over the ceiling of teachers room, and provide and fix 2 in. frame in same, 26 in. x 30 in. rebated and fitted with 1¾ framed and panelled door, hinged on top with 4 in. butts and secured with ½ in. iron stay-hook 3 ft. long. Provide neat dressed step ladder of 1½ in. strings and 2¼ in. steps strongly made for access to above manhole. The joists throughout to be laid level for floors and ceiling, and to have not less than 4 in. bearing on walls, and well spiked to bond timber in wall. The basement and ground floor ceilings will be counter ceiled with 2 in. x 3 in. and 2 in. x 2 in. strapping, set 16 in. centres and properly levelled for ceilings of same and well spiked to under side of joists with 4 in. spike to each joist in the most secure manner. Provide and fix 4 in. x 2½ in. well seasoned bond timbers to receive floor joists, also across under all window openings and for basement do. to be dressed on the face and set fair with the brickwork. Provide and set 6 in. x 8 in. well seasoned pine lintels to all windows and door openings in outer walls except to basement windows which will have double lintel same size dressed on the under face and soffet. The doors in partition walls will have double 6 in. x 6 in. lintels, and in basement to be 6 in. x 6 in. and 6 in. x 8 in. laid together and dressed on the face and soffit to finish fair with face of brickwork. Provide and set 2½ x ½ well seasoned bond strip to all outer walls every 6th course in height for strapping and grounds, also provide and build in 9 in. x 14 in. x 3 in. well seasoned jamb blocks to all door openings, 8 to each opening. Provide and set well seasoned wood bricks of 3 in. stuff to all window openings except basement. Provide and strap all outer walls except in basement with 2 x 2½ in. well seasoned pine strapping set 16 in. centres and well spiked to bond strips in walls, the strapping to be set true and plumb to line on the face to receive the lathing. The sliding door between the two upper class rooms to have a 10 in. x 14 in. well seasoned and dressed pine lintel over same and trussed on top with 4 in. x 8 in. Queen truss with inch foot and suspension rods, with nuts and washers, etc., all complete. Provide and set 3 in. x 12 in. solid and moulded door frames to the front and rear entrance with 3 in. oak weathered sill rebated and fitted for 2¾ in. thick raised panelled and bolection moulded doors. The rear entrance ground floor door to have 4 x 6 in. moulded transom bar and 2¾ in. moulded transom csoh, basement entrance doors to have upper half fitted for glass as shown per elevation with 1¼ in. sash base. The inside doors to front porches to be 2⅛ thick and as described for the front entrance doors. Provide and fix 2½ in. x 15 in. solid and moulded door jambs with moulded transoms and transom sash, and 1¾ in. thick panelled and solid moulded doors complete. The front entrance doors to be 4 ft. x 8 ft. in 6 panels, hinged with three 8 in. square wrot. iron black japanned butts and fastened with heavy and neat forged iron latches with twisted ring shambles bolted on and secured with 6 in. carpenter's locks, and held open with ¼ in. round iron hook and staple all complete. (For sample of above latches, see those on Ryerson and Given St. schools.) The ground floor rear entrance door will be same size and hinged and fastened as above described. Basement entrance doors to be 6 ft. 8 in. x 3 ft. 6 each and 2⅛ in. thick, panelled and moulded in the solid on stile and rails, and fitted for glass, to be hinged with two 6 in. wrought iron butts and fastened with 6 in. carpenter's lock with 2½ in. black japanned or brass knobs, and to have hold back hooks as described for front doors. All class room doors to be 7 ft. 6 in. x 3 ft. 4 in. x 1¾ in. thick, six panelled and moulded in the solid on stile and rails, to be hinged with 6 in. square wrot. iron black japanned butts and fastened with heavy mortice locks (Griffith's gravity locks per sample in office) and fitted with 2½ in. finished brass knobs complete. These doors will have 1¾ in. moulded transom sash over same fitted with two lights of glass 18 in. x 24 in., to be hung on vertical centre pin fitting and secured with a steel spring catch, and to be fitted with a counter sunk finger plate. Provide and fix 2¾ thick framed and panelled sliding door between closet rooms, as shown per drawings, to be formed in 12 panels having 8 in. wide outside stiles, 6 in. wide intermediate stile, 8 in. wide top and middle rails and 12 in. wide bottom rail; the three centre vertical stiles are to be 1½ in. thick, only the centre panels being counter sunk as one large panel 15 ft. x 3 ft. 6 in. high to receive the blackboard, and when same are set to be held in by small hardwood stop ¼ in. thick, set flush with the stile and rail, and fastened with round head screws. This sliding door to have ¾ in. half round metal rail screwed to floor and extending across the corridor and to be fitted with two best pattern 6 in. turned sliding door wheels with turned steel axle and bushings, and screwed and counter sunk into bottom rail all complete. Provide and fix 2 in. jambs to sliding door opening and to sliding door slit in corridor, well moulded, etc., and provide and fix 2 in. x 6 in. moulded pine boxing to one side of sliding door opening to side and head of same. The doors into privy closet rooms in basement, also into coal rooms and furnace rooms, six in number, will have 6 in. x 3 in. chamfered and rebated frames and 2 in. oak sills, fitted with 4 in. transom bars and 1¾ in. transom sash, to have 1¾ in. x 3 ft., 6 ft. 8 in. doors hinged with 5 in. wrot. iron black japanned butts and fastened with 6 in. x 4 in. carpenter's locks and 2½ in. brass knobs, same as to class room doors. The two lunch rooms in basement will not have any door frames or doors. Provide and fix 2 in. door frames and 1⅛ matched and cleted doors 5 ft. x 2 ft. 3 in. to foul air chamber in privy rooms, also similar frames and doors to ventilating stacks, frames to be 6 in. x 2 in. chamfered. Also provide similar frames and doors to upper part of ventilating stacks above attic floor, and provide and hang same with 10 in. T hinge, and fasten with 6 in. barred bolt. Provide and fix 6 in. x 3 in. solid and chamfered frames and 1¾ moulded sash to all basement windows, the sash to be hinged on top with 4 in. butts and fastened with 6 in. barrel bolts, two to each sash, and to have stout pulley cord, and plumb bob balance weight fastened to ceiling to open and shut same. Provide and fix borrowed light frame 8 in. x 3 in. with ¾ in. vertical iron bars 4 in. apart in same to corridors in basement where shown on plans, four in number complete, to be 3 ft. 6 in. and 4 ft. Provide and fix boxed frames to all class rooms and corridor windows, grooved and toqued together, with 2½ in. heads and sills and fitted with double hung 1¾ in. moulded sash fitted for 6 lights, 14 in. x 24 in. to each sash or 12 lights to each window. The corridor windows to have 18 x 24 glass. All the above mentioned sashes to be double hung with best Silver Lake braided cotton sash line, iron weights 2½ in. solid axle turned pulleys, and each sash to have two metal lifts and one metal counter sunk pull down fitting, and one good heavy metal sash lock. Provide eight brass pull down hooks, fitted to

light ash poles, one for each class room complete. Provide large half-circle window frame of 6 in. x 3 in. stuff, with 4 in. x 4 in. mullion bars, and 1¾ moulded sash to gable window with inside stop, etc., complete. Also similar circular frames to porch and rear gable windows, the former to have inside inch bead planted around the rural. Provide and construct the roof to building and porches, etc., as shown per elevations and sections. The main roof is to have 12 in. x 3 in. wall plates, 8 in. x 2 in. rafters, 10 in. x 2 in. hip rafters, and double 10 in. x 2 in. valley rafters well spiked together with 4 in. spikes. The rafters will be 18 in. centres, notched down on to wall plate and ridge and deck plates and well spiked to same with 4 in. spikes. The deck roof to be supported with framed "Bents," as per sections 12 in. x 6 in. x 4 ft. templates bedded on top of corridor walls, and upon same the framed "Bents" to rest, having 8 in. x 8 in. sill and head piece, 8 in. x 8 in. posts, 6 in. x 6 in. streets, and 6 in. x 8 in. purlins, also 8 in. x 2 in. cross ties, the latter spiked to side of posts and common rafters with 5 in. spikes, the common rafter being doubled opposite each "Bent," the bents also to be braced with 6 in. x 4 in. braces, and to leave 8 in. x 8 in. plates extending along from bent to bent and bolted and spiked to same with ¾ in. iron bolts and 4 in. spikes, to receive the ends of rafters. These "Bents" are to be morticed and tenoned and pinned and spiked together in the most substantial manner, and where necessary, the head pieces to extend out far enough beyond the post to give support to valley and hip rafters. The roof to be covered with good sound and seasoned grooved and tongued flooring 1⅛ in. thick all well nailed, and breaking joints every 6th board, the flooring to be 6 in. wide and laid close at joints, and to be free from large, loose and dead knots. Trim and line the ends of rafters to receive the roof cornice, and provide and put ⅞ in. faced to same, and ⅞ in. x 10 in. matched, soffit lining and 6 in. moulded bed moulding and 6 in. crown moulding and 1½ in. core moulding under crown and gutter moulding of 9,000 sound and well seasoned stuff, all well dressed, fitted and nailed and left in first-class order for painter. Provide and fix ride pieces of ⅞ in. and 6 in. stuff and 3 in. round and rebated ridge rolls all well spiked on and all dressed for painting, also provide and fix ½ in. thick by 4 in. slate grounds, bevelled tilting pieces to vallies and eaves as may be required by slater. Construct gables as shown, with moulded cornice to same, also gablets at open of main roof, next to ventilating stacks, with moulded cornice, etc., complete. Provide and construct roof to belfry as shown, to have 6 in. x 3 in. plate and 6 in. x 2 in. rafters, and ⅞ in. grooved and tongued boarding, and shaped brackets to receive the galvanized iron moulded cornice, all well spiked together, and fitted and secured to brickwork. Provide and construct stair from ground to first floor, as shown per drawing, to have 2¼ in. thick moulded strings and three 6 in. x 4 in. carriage pieces. Steps of 1⅛ in. pine risers and 1⅛ in. oak treads housed at ends into well and wall strings and well wedged and glued, etc., and to be well blocked to carriage pieces. The rise of tops to be 6½ inches and treads 10½ in. with ¼ in. fall or pitch to latter, and to have rounded and moulded risings. The balustrading at side of stairs to consist of ⅞ in. by alternate 3 and 4½ in. grooved and tonued and bevel jointed sheeting nailed to the side of well string and capped with a 6 in. x 4 in. oval backed oak hand rail ploughed out to receive the ends of sheeting and to have quarter round moulding planted along under same. The balustrading around the well at top of stairs to be constructed in same manner, the sheeting to be nailed to side of well trimmer joists and finished on the inside and at ceiling line with ⅞ in. ogee moulded plinth, also to floor line in same manner and to correspond with the wall wainscoting, with quarter round moulded shoe strip, etc., all well nailed. Construct rest-landing to stairs as shown per plans, with 10 in. x 2 in. joists built into corridor wall and floored with ⅞ in. oak flooring with 1⅛ in. moulded nosing of same corresponding to tread of stairs. Post 6 in. x 6 in. chamfered on angles to be placed to support the landing, extending floor up to same. Enclose the spandril of stairs with ⅞ in. sheeting nailed to side of string and to 2 in. x 4 in. floor clete, and to have ⅞ in. ogee moulded hose with shoe strip same as to balustrading, and to have moulded capping same as to wainscotting all complete. Stair newels to be of oak 8 in. square and turned, with turned mitre cap to same. The basement stairs to be constructed, as shown per drawings and as described for main stairs, with sheeted balustrading and newel posts in same manner all complete. Provide and construct steps to front and rear entrances, as shown per drawings, to have 2½ strings and 4 in. carriage pieces, 1¼ in. oak risers and 2 in. x 2 in. slatted treads of oak laid with ¼ in. space between, and well spiked and screwed down, the nails and screws to be counter sunk 3-16 of an inch. The platforms to front steps to be constructed with oak slats in same manner and to have 8 in. x 2 in. bearers under same built into main and parapet walls. Build oak coping to parapets of front steps with 2½ in. x 12 in. oak plank, chamfered on edges and spiked to 2 in. pine plank bolted down to brick parapet with ¾ in. bolts, as called for in bricklayer's specification, and plank on 3 in. moulding of oak under oak coping. Platform to rear entrance steps to be built of 2 in. x 2 in. oak plank, grooved and tongued together, resting on bond timber built into main wall and at outer end on 6 in. x 8 in. timber built into parapet walls of entrance steps, to be neatly dressed and rounded on the nosing, and to have a fall outwards of one inch. The rear entrance steps up to ground floor level and down into basement will be constructed in same manner as described for front entrance steps. The coping will consist of 9 in. x 3 in. stuff chamfered on edges and bolted down to parapet walls as provided in bricklayer's specifications, the bolt nuts to be counter sunk and a 2½ in. round oak roll planted on top of same as shown per marginal diagrams. The walls at side of basement area steps to have pine coping 14 in. x 3 in. dressed on top and face and chamfered on edge, and to be coal tarred on the under side and outer edge and bolted down by ¼ in. anchor bolts provided and built in by bricklayer. Provide and construct roof over rear and basement entrance steps, to have 6 in. x 6 in. dressed and chamfered posts tenoned into and spiked to parapet coping and to have 6 in. x 6 in. plates and cross bearers, and covered with ⅞ in. x 4 in. grooved and toqued sheeting laid double on 6 in. x 2 in. dressed rafters with ⅞ in. facia and crown moulding and fillet on sides and bottom. The posts are to be braced with 6 in. x 4 in. chamfered braces as shown per elevations, etc. The basement entrance to be covered with double ⅞ in. x 4 in. stuff resting on parapet coping and wall clete and battened on top with 2 in. x ¾ in. moulded battens, the upper steps roof to be battened in same manner. All the stuff for above mentioned roof to be of good, sound, clean and well seasoned pine, and all left in good order for the painter, complete in all respects. Provide and fix wainscotting to all closed rooms and corridors (except in basement), to be 3 in. x 6 in. in height with moulded capping and ⅞ in. x 8 in. moulded plinth and 1¼ in. moulded shoe strip, the wainscotting to be composed of alternate 2½ and 4 in x ⅞ grooved and tongued and jointed sheeting of clear, seasoned, kiln-dried stuff, put together and blind nailed in most substantial manner. Provide and fix openings for exhaust ventilators in the base of wainscotting under all windows in class rooms, and two extra, making six in each class room, and provide and fix screens of galv. wire cloth to same with neat moulded frame around each, and provide and connect same down to the span formed by the counter ceiling. Provide and fix ⅞ in. jamb lining and soffit to all windows except in basement, also 1⅛ in. stools finished same level and forming part of wainscotting capping, the lining to be tongued into frames, and provided with ⅞ x 12 in. ventilating boards cut in between and held by neat moulded cletes. Provide and fix 6 in. x 1⅛ in. well seasoned and kiln-dried clear pine architraves to all windows and doors except in basement, all nailed to ⅞ in. x 3 in. grounds, well nailed to wall strips, etc., in walls. Provide and lay ⅞ in. x 10 in. thickness, sound and seasoned common flooring, ground and first floor throughout all well nailed down to every joist with two 3 in. nails, and after all plastering and trimmings are on and the building cleaned up, lay down best quality of ⅞ in. x 3 in. thoroughly kiln-dried white maple flooring, grooved and tongued and blind nailed and finished up smooth and close jointed throughout, and have the same clean and in thorough order for oiling. Put 1⅛ oak nosing boards to all well holes and properly fit and scribe to all walls and other parts. The carpenter will lock up each room as the floors are laid and until the painter is ready to oil the floors. Construct teacher's platforms at end of each class room, as shown to be 6¾ high laid on 6 in. x 2 in. bearers, 18 in. centres, and floored with ⅞ in. x 3 in. maple flooring with 1⅛ in. nosing to same, and ⅞ in. pine riser rounded and moulded complete. Provide and fit up privy closets in basement as shown per basement plans and details. The floor to be laid with 6 in. x 2 in. bearers laid upon the finished cement floor, 18 in. centres, and floored with ⅞ in. x 3 in. maple flooring, same as other floors and with 1⅛ in. nosing to same. The seats to have ⅞ x 4 in. grooved and tongued sheeting for risers well nailed to trimmer bearer, and to have 1¼ quarter round planted in angle next to floor, and 1¼ in. x 3 in. clete along the top under seat. The seats to be made out of 1⅛ in. stuff, with rounded nosing and perforated with graduated seat holes, 6 in. x 9 in. to 7 in. x 11 in. as shall be directed. Enclose the closets with 1¼ in. x 4 in. grooved and tongued matched sheeting 6 ft. 6 in. high with 2 in. x 3 in. capping chamfered on edges and ploughed to receive the ends of sheeting, also floor cletes in same manner. The doors to have 3 in. x 3 in. chamfered posts, rebated for 1⅜ doors but without doors. Provide and fit up screen along the front of each range of closets and urinal as shown per plans and as described for privy enclosure, and in both cases extend the posts up to the ceiling and well spike and tenon the same into a 2 in. x 3 in. ceiling clete planted on to receive the same. The seats are to have 1⅛ flaps or covers to the holes with 2 in. x 1¼ cletes tenoned on to same and to be hinged with 6 in. wrot. T hinges put on with screws. Provide and fix 1¼ in. x 15 in. dressed board at back of urinal. Provide and fix grounds, boards and casing to plumber's piping, and all cutting and notching for same in the best and most substantial manner and as shall be directed. All woodwork for the above closets and screens to be of best seasoned stuff. The carpenter will provide and set all centres for bricklayer and provide and stay all frames and case in all cut stone work when necessary and as may be decided by the architect. The carpenter will attend on other trades and as may be necessary for the proper carrying out of the works. The core of the building will rest with the carpenter who will provide all necessary temporary doors and fastners to same, and will provide keys for the other trades to gain access to the building at all proper working hours, and will see that the building is properly closed in at nights and during Sundays. Provide and fix 1¼ in. iron hand rail at each side of main stairs made of 1¼ in. gaspiping secured to the side of stairway with wrot. iron brackets and finished to newels with iron socket flanges screwed on. These iron rails to be the same as those in Given St. and Ryerson schools. Provide and fix black japanned metal clothes hooks in each class room, screwed with four ¼ in. screws to the wainscotting and to be per sample in our office. There will be sixty of these hooks in each class room and 12 in teacher's room at end of corridor, and eight elsewhere directed by the architect, making 500 in all. Provide and fit up in each class room, and where recess in walls will be left for same, small cupboards 30 in. wide x 36 in. high and 9 in. deep, to have 1⅛ in. side and front and 1⅛ in. flock panelled doors in two boxes hinged with 3 in. butts and fastened with good cupboard lock and to have metal knobs 1⅜ in. moulded stool and moulded cornice, and to project about 4 in. from face of plaster work on walls. These cupboards will have three ⅞ in. shelves to same on neat moulded clete.

(To be Continued in March Number.)

BILL OF QUANTITIES.

EXCAVATION AND DRAINAGE.

	$	c.
1340 cubic yards of excavation, includes filling and ramming, etc., complete		
Cutting and grading around the building, complete		
Cutting, filling and grading the lot to uniform grade throughout, and carting away surplus earth		
Provide 9 in. sewer connection from street sewer to street line, at per lineal yard, complete		
Provide 9 in. continuation drain from sewer connections to point shown on plan, at per lineal yard		
58 lineal yards of 6 in. vitrified tile drains, includes Y's, bends, elbows, junctions and traps, etc., complete		
102 lineal yards of 4 in. vitrified tile drains, includes Y's, bends, elbows, junctions and traps, etc, complete		
80⅔ lineal yards of 3 in. x 4 in. weeping drain, includes packing with broken brick and coarse gravel, complete		

NOTE.—Excavations are measured "cube," that is, length, breadth and depth, thus: 54 ft. 9 in. x 22 ft. 6 in. x 5 ft. 6 in., equal to 6775 ft. 4 in., divided by 27, the number of feet in a cubic yard, gives 251 cubic yards, less (1 ft. 8 in). Tile drains are measured lineal, that is, running measure, as indicated in above items.

MASONRY.

93½ toise masonry (86 ft. cube English measure) in foundation walls, pointed in cement mortar outside, complete		
2 toise masonry in vent, foundation, (Dimension stone)		
995 supl. ft. of Credit Valley stone, random coursed work above surface; inch draft and hammered dressed reveals; pointed in cement, complete		

NOTE.—Masonry is measured cube, and the totals of dimensions added together, divided by 86, the number of cubic feet in a toise. The French measure per toise being 6 ft. x 6 ft. x 2 ft., equivalent to 6 ft. 4½ in. x 6 ft. 4½ in. x 2 ft. 1½ in. English measure, the French foot being ¼ of an inch longer than one foot English.

PERSONAL.

In the CANADIAN ARCHITECT AND BUILDER for January the statement was made that Mr. Geo. Gouinlock, architect, Toronto, had entered into partnership with Mr. Garland. We regret that this statement was made without authority and under a misapprehension as to the facts. It has since been learned that the arrangement Mr. Garland had with Mr. Gouinlock, was only a temporary one, and that it has since been dissolved.

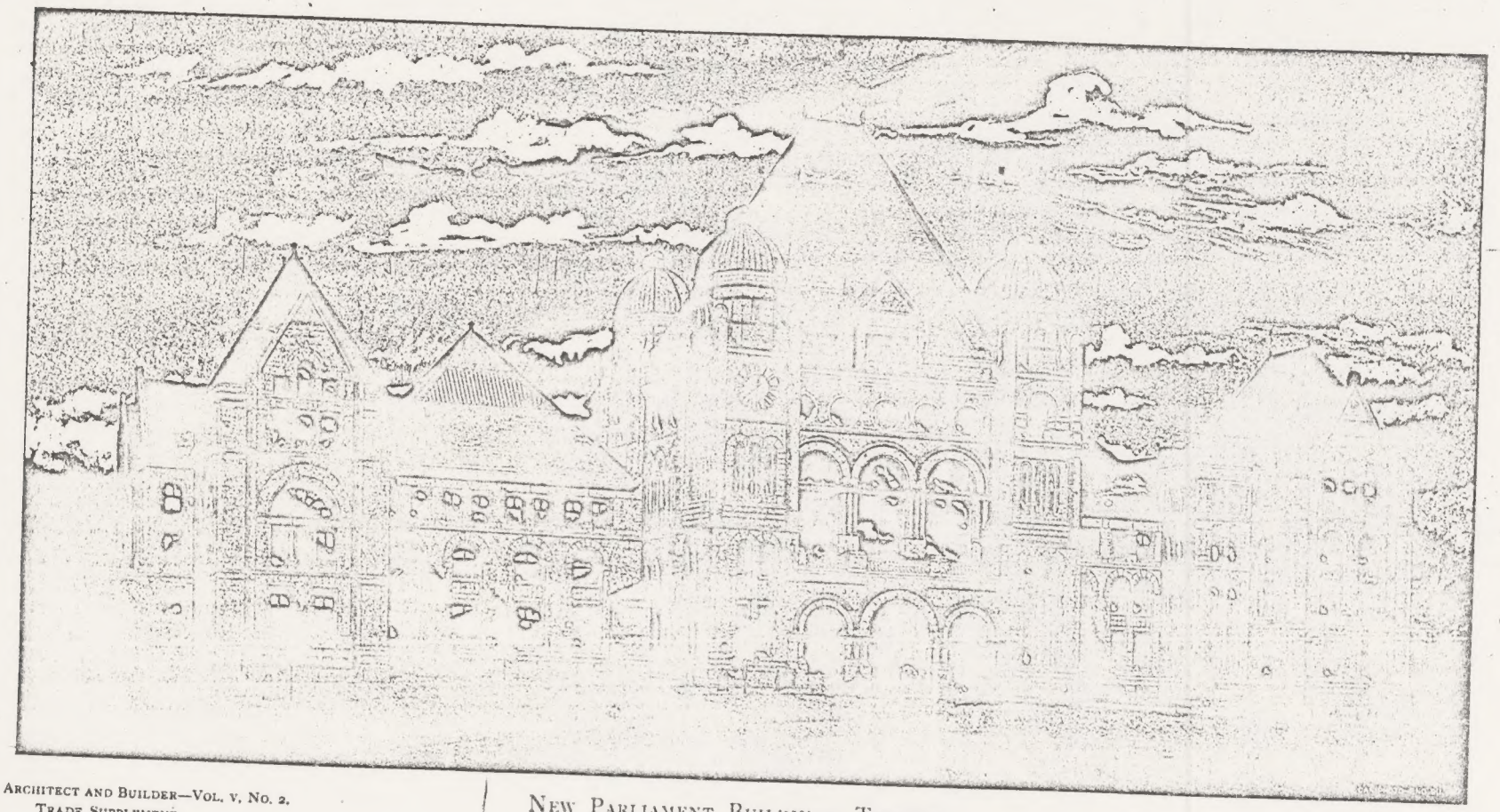
News has been received of the death at Hanford, Cal., of Mr. Jas. R. Bowes, architect, late of Ottawa, Ont. Mr. Bowes death resulted from injuries sustained by jumping from the second story window of a burning hotel.

Mr. Wm. Gregg, Jr., representing the Toronto Radiator Mfg. Co., at Winnipeg, Man., paid a visit to Ontario last month. He reports the building outlook for Winnipeg and the Northwest to be encouraging, and business in his particular line extending.

PUBLICATIONS.

Sir Edwin Arnold, who has been enjoying an interesting trip through the United States, has made a careful study of the conditions which govern the family in Japan and embodies his ideas in a paper called "Love and Marriage in Japan" in the February number of *The Cosmopolitan*. The article is illustrated by the quaintest possible Japanese sketches running down the sides and across the bottom of each page.

We have been favored by the publisher with a copy of a practical treatise by Mr. Owen B. Maginnis on the practice of centering arches in building construction in the United States. The book contains 65 illustrations, is well bound in cloth, and is sold at the price of $1.50. Wm. T. Comstock, New York, is the publisher.



CANADIAN ARCHITECT AND BUILDER—VOL. V, NO. 2.
TRADE SUPPLEMENT.

NEW PARLIAMENT BUILDINGS, TORONTO.

TO BE HEATED WITH SAFFORD STEAM RADIATORS.

SKETCH CLUB COMPETITION